

Class \_\_\_\_\_

Book \_\_\_\_\_

SMITHSONIAN DEPOSIT







# Electric Light Supplies



## Western Electric Company

### Chicago

227 to 275 South Clinton Street

242 to 258 South Jefferson Street

37 to 45 West Congress Street

### New York

Thames and Greenwich Streets

### London

79 Coleman Street

### Antwerp

33 Rue Boudewyns

### Berlin S. O.

Engel Ufer 1

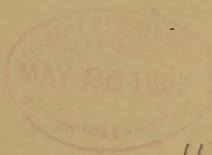
### Paris

45 Avenue de Breteuil



APRIL, 1897.

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WESTERN ELECTRIC COMPANY.



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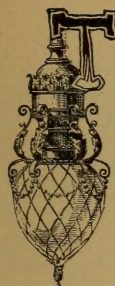
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## Introductory



**THE** Electrical trade, in referring to this copy of our Electric Light Catalogue, will note that it covers only such material as is specially adapted to electric light work, and that in addition to the material listed herein we carry a complete stock of both Bell and Railway supplies, and can furnish promptly anything in the electrical line, even though we do not list it.

We issue for the use of the Electric Railway trade a catalogue devoted to that branch of the business, and will, on request, mail copies to any of our Electric Light customers who have use for it.

Our Electric Light Supplies are of the highest quality, and every article is fully guaranteed.

Western Electric Company

April, 1897.



## TERMS.

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OUR terms to people of established credit are 30 days net, in Chicago or New York funds. Unless your standing is known to us, or you have a rating with the Agencies, please have statement of your financial condition and satisfactory references accompany your order; if this is not done, there will necessarily be delay while we look up your credit.

All accounts will be due on the fifteenth of the month following shipment, and if not paid by that time will be subject to sight draft without notice.

We do not allow cash discounts

Goods will be sent C. O. D. if a remittance sufficient to pay express charges both ways accompanies the order.

If 25 per cent. of the bill is remitted with the order, the goods will be forwarded by freight, and draft for the balance, with bill of lading attached thereto, will be sent to any designated bank, so that the goods can be delivered at destination on payment of draft.

Payment may be made by Draft, Post Office or Express Money Order, or Registered Letter; we will not be responsible for remittances lost in transit.

## Prices.

All former prices are hereby annulled.

All prices are subject to change without notice.

Boxing, cartage and postage will be charged at cost.

We will cheerfully and promptly answer all inquiries for prices and discounts. In writing us for quotations kindly refer to the page of our catalogue on which the articles are described, and state the quantity desired.

## Shipments.

We request our customers to give us shipping directions with their orders, but in their absence we will use our best judgment in making selections of routes. As we employ experienced packers, we cannot be responsible for breakage after having obtained "in good order" receipts from a transportation company. All claims for breakage and damage should be made to the carriers.

Goods ordered to be shipped by mail will only be sent at purchaser's risk of loss or damage.

## Telegraph Code.



CUSTOMERS are requested to make use of our code words as far as possible in ordering goods, requesting quotations or requesting information relative to shipment of orders, by telegraph, as it saves considerable expense, making it possible to send a long message for the price of a short one, and experience has also shown that it reduces the liability to errors. By a little ingenuity in arranging such

a message, from thirty to fifty words can be transmitted for the price of a ten word message. Telegraph inquiries received by us in code will be replied to in the same manner, not otherwise. We give below a number of code words, representing business phrases and sentences which are to be used in connection with code words given on the following pages:

### CODE IN GENERAL:

Lapwing	Answer by mail.
Larboard	Referring to our letter of.
Larceny	Referring to your letter of.
Larch	We write you fully to-day.
Largeness	We have no letter from you.
Largess	Will write you fully in a day or so.
Lariat	Write giving full particulars.
Lark	Answer by telegraph—day message.
Larva	Answer by telegraph—night message.
Larynx	Referring to our telegram of.
Lascar	Referring to your telegram of.
Lash	Telegraph immediately.
Lashed	Telegraph reply soon as possible.
Lashing	We have no telegram from you.
Lass	Why do you not telegraph?
Lasting	Shall we?
Latch	Will you?
Lateen	Will you accept?
Lateness	Wire at once if accepted or not.

### CODE IN GENERAL—(Continued):

Latent	Will greatly accommodate us if you will.
Latently	According to contract.
Lateral	Not according to contract.
Lather	To which add the cost of.
Lathered	In addition to.
Lathering	How did you address?
Latin	Was addressed to.
Latinize	Please note an advance of.
Latitude	Would you advise?
Laterally	Would advise you to.
Latterly	Would not advise you to.
Lattice	Unless otherwise advised will assume that.
Laud	Will you agree to?
Laudable	Will agree to.
Laudably	Must have answer by.
Laudation	Will be in.
Laudative	Will be here.

## WESTERN ELECTRIC COMPANY.

## CODE IN GENERAL—(Continued):

<b>Laugh</b>	Utmost care must be used.
<b>Laughable</b>	Cash on delivery.
<b>Laughed</b>	Cash in 30 days
<b>Laugher</b>	Will not allow any commission.
<b>Laughing</b>	Commission will be allowed.
<b>Launch</b>	Your financial standing being unknown, we will send goods C. O. D. unless otherwise instructed.
<b>Launched</b>	Kindly send us references as to your financial standing, or shall we ship via freight with draft attached to bill of lading?
<b>Laundress</b>	Will you agree to the conditions?
<b>Laundry</b>	Contract awarded.
<b>Laura</b>	Contract will be awarded.
<b>Laurate</b>	Will you extend credit?
<b>Laurel</b>	Have you decided?
<b>Lava</b>	Have not decided.
<b>Lavation</b>	Have decided.
<b>Lavatory</b>	Will guarantee delivery by the.
<b>Lavender</b>	Cannot guarantee delivery before the.
<b>Lawfully</b>	The diameter is.
<b>Lawfulness</b>	Will do the best we possibly can.
<b>Lawgiver</b>	Do the best you possibly can.
<b>Lawgiving</b>	Shall we do so?
<b>Lawless</b>	Do so.
<b>Lawn</b>	Can do nothing until.
<b>Lawrence</b>	What have you done about?
<b>Lax</b>	Will deposit sight draft on you to-day, unless advised to the contrary, for ..... dollars.
<b>Laxative</b>	Please accept our draft for..... dollars.
<b>Laxity</b>	Send duplicate copy of invoice dated.
<b>Laxness</b>	Have examined very carefully and find.
<b>Laymen</b>	Expenses to be paid by.
<b>Lazily</b>	Do not fail to.
<b>Laziness</b>	Have figured as close as possible.
<b>Lazy</b>	Freight must be prepaid.
<b>Leach</b>	Freight rate per hundred pounds to destination.
<b>Leadon</b>	What is freight rate per hundred pounds?
<b>Leader</b>	Guarantee the account.
<b>Leading</b>	Hold subject to your order.
<b>Leafage</b>	Does not include.
<b>Leafing</b>	Must be included.
<b>Leafless</b>	Will keep you fully informed.
<b>Leafy</b>	Insist upon.
<b>League</b>	Await instructions.
<b>Leagued</b>	Letter in transit with full particulars

## CODE IN GENERAL—(Continued):

<b>Leak</b>	Shall we deliver goods on verbal order of your Mr. ....?
<b>Leakage</b>	Advisable for you to place order at once, prices tending to an advance.

## ORDERS:

<b>Leaking</b>	Add to our order of.
<b>Leaky</b>	Cancel our order of.
<b>Lean</b>	Change our order of.
<b>Leaned</b>	Hurry forward goods on our order of.
<b>Leaning</b>	Have you shipped goods on our order? If not, when will you?
<b>Leanness</b>	Enter order if you can ship in.
<b>Leaped</b>	Hold for instructions our order of.
<b>Leaping</b>	If you cannot ship in time named advise by telegraph.
<b>Learn</b>	Instructions by mail.
<b>Learned</b>	Prepay freight.
<b>Learning</b>	Shipping instructions will be sent you.
<b>Lease</b>	Ship immediately.
<b>Leased</b>	Ship as soon as possible.
<b>Leasehold</b>	Ship by express.
<b>Leaseholder</b>	Ship by fast freight.
<b>Leash</b>	Ship quickest route.
<b>Leaven</b>	Ship cheapest route.
<b>Leavened</b>	Send tracer immediately for shipment of.
<b>Leavening</b>	Wait receipt of letter before proceeding with order.
<b>Lecture</b>	Change order for.
<b>Lectured</b>	Send C. O. D. by express.
<b>Lecturing</b>	What quantity can you ship per day?
<b>Ledge</b>	Do not delay.
<b>Leeward</b>	Duplicate our order.
<b>Leeway</b>	Can you furnish?
<b>Legacy</b>	Hold subject to our order.
<b>Legal</b>	Hold until further orders.
<b>Legalize</b>	Send us immediately.
<b>Legally</b>	This is very important.
<b>Legate</b>	Send tracer on shipment—goods not here.

## QUESTIONS:

<b>Legatee</b>	At what price could you furnish?
<b>Legation</b>	Quote us by telegraph.
<b>Legend</b>	Quote us by next mail.
<b>Legendary</b>	Quote lowest price by telegraph, F. O. B. New York.
<b>Legging</b>	Quote lowest prices by mail, F. O. B. New York.



## QUESTIONS—(Continued):

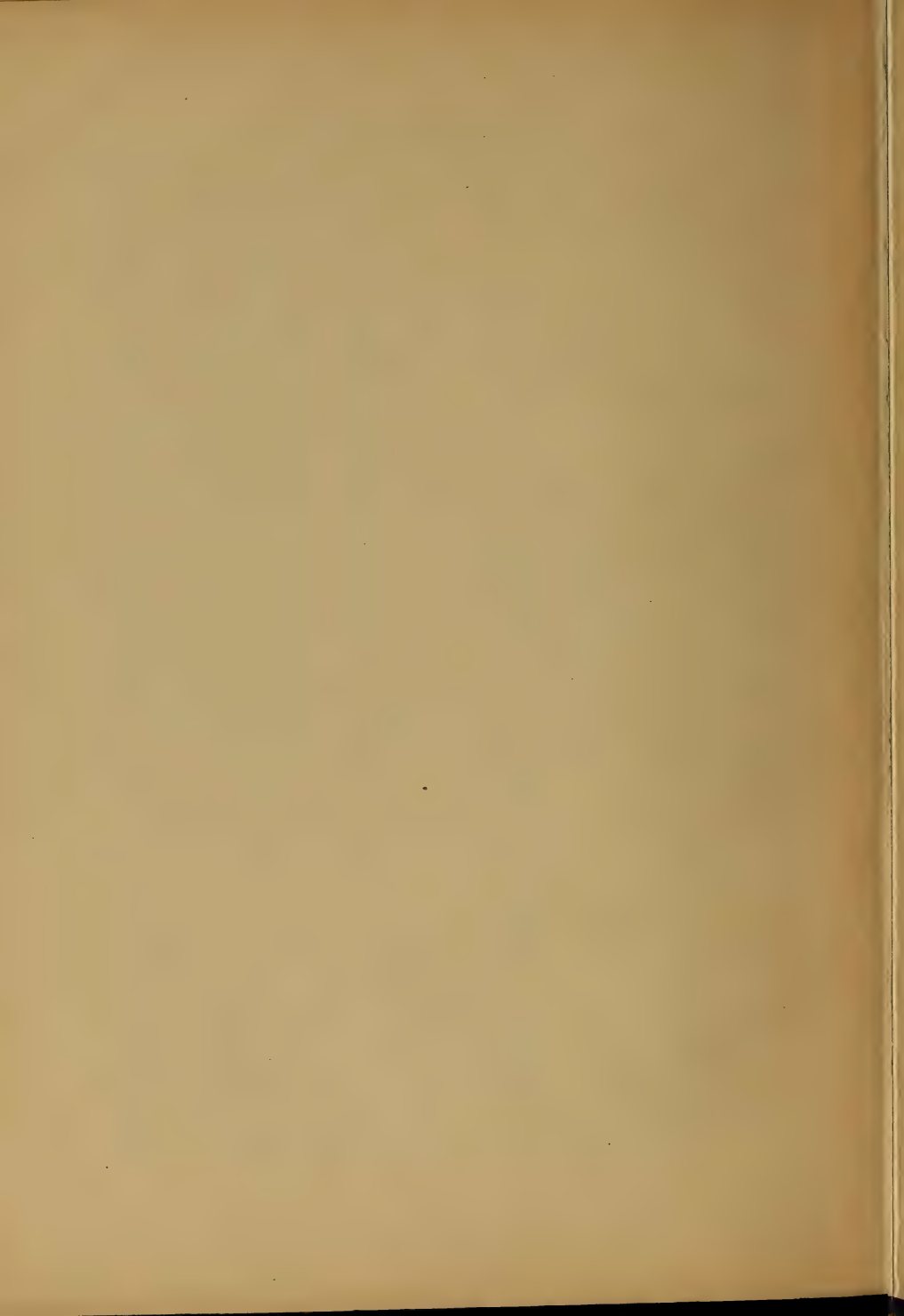
<b>Legible</b>	Telegraph lowest price, F. O. B. New York, and how soon can ship.
<b>Legibly</b>	Can you ship immediately?
<b>Legion</b>	Can you ship in?
<b>Legislate</b>	Have you in stock?
<b>Legislated</b>	Have you in stock? If not, how soon can ship?
<b>Legislating</b>	How soon can you ship?
<b>Legislative</b>	How soon can you make first shipment, and how fast remainder?
<b>Legislator</b>	What substitution can you make?

## ANSWERS:

<b>Legislature</b>	Please specify quantities and trade number.
<b>Legitimate</b>	Unable to give better price.
<b>Legitimately</b>	We quote.
<b>Legitimist</b>	We quote for immediate acceptance.
<b>Legless</b>	We quote in reply to your inquiry of.
<b>Leisure</b>	We quote shipment from stock.
<b>Leisurely</b>	We quote shipment in.
<b>Leming</b>	We cannot accept at the price.
<b>Lemon</b>	We will accept your order.
<b>Lemonade</b>	We do not make the article.
<b>Lender</b>	Can ship at once from stock, if advised immediately.
<b>Lending</b>	Can ship at once on receipt of order.
<b>Lengthen</b>	Can ship in.

## ANSWERS—(Continued):

<b>Lengthened</b>	Can begin shipping at once, and complete in . . . . .
<b>Lengthening</b>	Can ship within one week from receipt of order if advised at once.
<b>Lengthily</b>	Can ship within two weeks from receipt of order if advised at once.
<b>Leniency</b>	Have none in stock.
<b>Lenient</b>	First shipment will be made.
<b>Lent</b>	Have entered order and will ship.
<b>Leonard</b>	Have sent tracer as requested.
<b>Leonine</b>	Have suspended work as requested.
<b>Leonora</b>	Too late to cancel order.
<b>Leopard</b>	Unable to ship goods at time promised.
<b>Leopols</b>	We ship you to-day.
<b>Leper</b>	We expect to ship.
<b>Leprosy</b>	We will complete your order.
<b>Leprous</b>	We will ship.
<b>Lessen</b>	We have shipped.
<b>Lessened</b>	We have completed your order and shipped same.
<b>Lessening</b>	We have entered order.
<b>Lethargy</b>	Telegraph shipping instructions for your order of.
<b>Lettuce</b>	Can deliver part of your order at once. Shall we ship portion or hold till we can make one complete shipment?
<b>Levant</b>	Do not understand your order. Send duplicate with full details.
<b>Levelness</b>	Send us official order confirming your telegram.





# SWITCHES.

## Paiste Single Pole Switch.



Nos. 802 and 827.

Code Word.	List No.	Metal Top.	List Price.
<i>Mange</i>	802	5 Amperes, each.....	\$0.25
<i>Manger</i>	827	10 " " .....	.60
<i>Rudoliff</i>	20001	5 " with grooved base each .....	.25
<i>Rago</i>	20002	10 " " " " " " .....	.60

## Paiste Single Pole China Switch.



Nos. 803 to 813.

		Five Amperes.	
<i>Mangle</i>	803	White, each.....	.72
<i>Mangled</i>	804	Ivory, " .....	.72
<i>Mangler</i>	805	Black, " .....	.80
<i>Mangling</i>	806	"Roman Gold" Flaked, each.....	1.00
<i>Mango</i>	807	Band Gold, each.....	1.00
<i>Mangrove</i>	808	Red, each.....	.80
<i>Manhood</i>	809	Blue, " .....	.80
<i>Maniac</i>	810	Oak, " .....	.80
<i>Manifest</i>	811	Antique Oak, each.....	.80
<i>Manifested</i>	812	Mahogany, " .....	.80
<i>Manipulate</i>	813	Walnut, " .....	.80

## Paiste Single Pole China Switch.

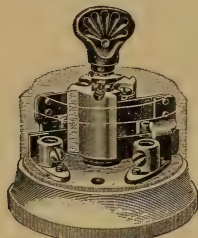


Nos. 828 to 838.

		Ten Amperes.	
<i>Mankind</i>	828	White, each.....	.96
<i>Manliness</i>	829	Ivory, " .....	.96
<i>Manly</i>	830	Black, " .....	.96
<i>Manna</i>	831	"Roman Gold" Flaked, each.....	1.40
<i>Mannerism</i>	832	Band Gold, each.....	1.40
<i>Mannerly</i>	833	Red, each.....	1.12
<i>Manning</i>	834	Blue, " .....	1.12
<i>Manor</i>	835	Oak, " .....	1.12
<i>Mansion</i>	836	Antique Oak, each.....	1.12
<i>Mantle</i>	837	Mahogany, each.....	1.12
<i>Mantled</i>	838	Walnut, each.....	1.12



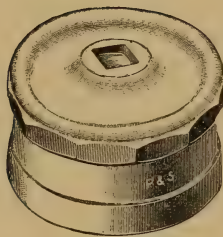
Nos. 917 and 918.



No. 936.



No. 845.



No. 33.

### The "Bryant" S. P. Switch.

Code Word.	List No.	Capacity, 15 Amperes, each.	List Price.
<i>Apter</i>	917		\$1.00
<i>Antituted</i>	918	25 " "	1.20
<i>Raleigh</i>	999	15 " with grooved base each	1.00
<i>Rulston</i>	1000	25 " " " " "	1.20

### Double Pole Ratchet Switch.

<i>Marooned</i>	936	5 Amperes, Bryant D. P. Ratchet Switch, each,	.75
<i>Marquis</i>	937	10 " " " " " " "	1.00

### Ratchet Double Pole China Switch.

#### Ten Amperes.

<i>Memorize</i>	845	White, each.	1.75
<i>Memory</i>	1845	Ivory " "	1.75
<i>Menace</i>	2845	Roman Gold, each.	2.25
<i>Mend</i>	846	Band " "	2.25
<i>Mender</i>	1846	Red, each.	2.00
<i>Mending</i>	2846	Blue, " "	2.00
<i>Menial</i>	847	Oak, " "	2.00
<i>Menial</i>	1847	Antique Oak, each.	2.00
<i>Mentally</i>	2847	Mahogany, " "	2.00
<i>Mention</i>	1848	Walnut, " "	2.00
<i>Mentioned</i>	848	Black, " "	1.75

### "P. & S." Single Pole Switch.

This Switch is all china. The china cover operates the Switch, and there is no key or handle projecting. It is small and very neat in appearance. It has an absolutely quick double make and break, with rubbing contacts, and has an exceedingly long break.

<i>Matins</i>	33	5 Amperes, all china, each.	.25
<i>Mattress</i>	33½	5 " decorated china, each.	.45
<i>Matriz</i>	34	10 " all china, each.	.35
<i>Matrimony</i>	34½	10 " decorated china, each.	.55
<i>Matron</i>	35	5 " flush, all china, " "	.25
<i>Matronhood</i>	35½	5 " decorated china, each.	.45
<i>Matted</i>	36	10 " all china, each.	.35
<i>Matter</i>	36½	10 " decorated china, each.	.55

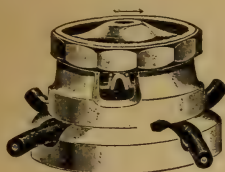


Fig. 1.

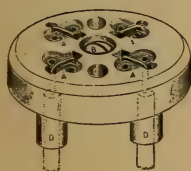


Fig. 2.



Fig. 3.

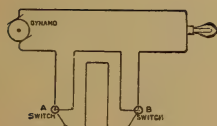


Diagram.

## "P. & S." All China Switches.

### 3-Way Single Pole.

Code Word.	List No.	List Price.
<i>Roofing</i>	No. 135,	3-Way S. P. Switch, all white, each..... \$ .40
<i>Roofless</i>	No. 135 $\frac{1}{2}$ ,	3-Way S. P. Switch, decorated, each..... .70

### Double Pole Switch.

Fig. 1 shows the Switch with back plate for open work. Fig. 2 shows the back plate for concealed work. The hollow projections D D are intended to extend through the lathing, thus thoroughly insulating the wires. Fasten the plate to the lathing by the screw B, the plastering being done so as to have the plate flush. To connect wires, remove plates AAAA from Switch, place them in recesses in back plate, bending the wires as shown in Fig. 2. The Switch is held by two screws, in holes C C. Fig. 3 shows under side of Switch with wires held by clamps AAAA.

In ordering state whether for concealed or open work.

<i>Ringwell</i>	No. 134,	10 Ampere, D. P., all white, each.....	.40
<i>Roofless</i>	No. 134 $\frac{1}{2}$ ,	10 " " decorated, " .....	.70

## "P. & S. Two-Circuit Switch.

This is a modification of No. 134 Switch, which makes it possible to control two circuits by the one switch in such a manner that either a part or all of the lamps may be used as desired by the operator.

In ordering state whether for concealed or open work.

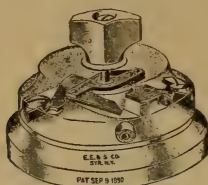
<i>Roak</i>	20182	5 Ampere, all white, each .....	.40
<i>Roakery</i>	20183	5 " decorated, " .....	.70

## Lazyman's Switch.

It is often convenient in residences, as well as in halls and stairways, to be able to light or extinguish a lamp from two points. This can be done as shown in cut. By reference to the diagram of the circuit, it will be seen that at either of the points A or B, the light or cluster of lights controlled by the switch can be turned on or off regardless of the position of the other switch.

In ordering state whether for concealed or open work.

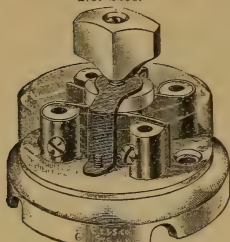
<i>Roak</i>	20184	S. P. Lazyman's Switch, all white, each.....	.40
<i>Roak</i>	20185	" " " decorated " .....	.70



No. 2668.

**E. E. & S. Crowell Switch.**

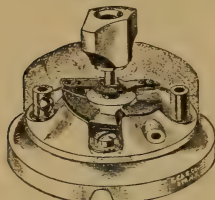
Code Word.	List No.	List Price.
<i>Mantling</i>	2668 10 Amperes, each.....	\$0.75



No. 8621.

**E. E. & S. Double Pole Switches.**

<i>Marching</i>	8621 5 Amperes, each.....	1.00
<i>Marcus</i>	8622 10 " " .....	1.20



No. 8623.

**E. E. & S. Lazyman's Switch.**

<i>Mare</i>	8623 Each.....	1.00
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No. 2669.

**E. E. & S. 5 Ampere Switch.**

Single Pole.

<i>Martin</i>	2669 Each.....	.60
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No. 20178.

**Cleveland Single Pole Switch.**

Code Word.	List No.	List Price.
<i>Roadbram</i>	20178 10 Amperes, S. P. each.....	\$0.50
<i>Roady</i>	20179 20 " " " .....	.75
<i>Roadf</i>	20180 30 " " " .....	1.00
<i>Roadr</i>	20181 40 " " " .....	1.40



No. 841.

## The "Bryant" Standard Switch.

Code Word.	List No.	Double Pole.	List Price.
<i>Reese</i>	20008	10 Amperes, each	\$1.00
<i>Margin</i>	841	15 " "	1.50
<i>Marginal</i>	842	25 " "	2.00
<i>Margrace</i>	843	40 " "	3.00
<i>Margold</i>	844	50 " "	3.50

## With Grooved Base.

<i>Renick</i>	20003	10 Amperes	1.00
<i>Reno</i>	20004	15 " "	1.50
<i>Renova</i>	20005	25 " "	2.00
<i>Revere</i>	20006	40 " "	3.00
<i>Renfree</i>	20007	50 " "	3.50

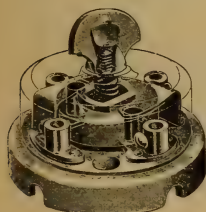


No. 20003.

## Perkins' Switches.

## The Gibbs Switch.

<i>Marine</i>	2213	10 Amperes, double Pole, each	1.25
<i>Mariner</i>	2214	15 " " "	1.75
<i>Maritime</i>	2215	30 " " "	2.25
<i>Mark</i>	2216	10 " for conduit boxes, each	1.25
<i>Regina</i>	20009	50 " double pole, each	5.00
<i>Markel</i>	2217	3 Point, each	1.25
<i>Market</i>	2218	4 " " "	1.25



No. 2213.

## The Gibbs Dial Switch.

<i>Ramer</i>	20010	10 Amperes, D. P., each	1.75
<i>Rankleigh</i>	20011	15 " " "	2.25
<i>Rankinville</i>	20012	30 " " "	2.75
<i>Randolph</i>	20013	50 " " "	5.50

## The Gibbs Dial Switch for 500 Volts.

<i>Rankin</i>	20014	3 Amperes, S. P., each	1.20
<i>Rapidan</i>	20015	10 " " "	3.75
<i>Ravenna</i>	20016	3 " 3 Point, "Headlight No. 49," each	3.00

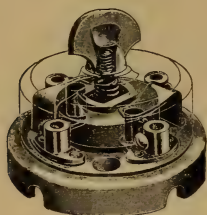


No. 20019.

## The Gibbs 500 Volt Switch, No Dial.

<i>Ravenwood</i>	20017	3 Amperes, S. P., each	.70
<i>Rarlinga</i>	20018	10 " " "	3.25
<i>Raragon</i>	20019	3 " 3 Point, "Headlight No. 49," each	2.50





## Perkins Switches—Continued.

[illegible]

### Gibbs 3 Wire Switch.

One of the most ingenious application of the Gibbs principle has been made to produce a switch which breaks simultaneously the three wires (each at two points) when used with the Edison 3 wire system.

<i>Rayburn</i>	<b>20020</b>	For 3 Wire System each .....	<b>3.00</b>
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## Perkins S. P. Switches.

<i>Mate</i>	<b>2229</b>	No. 20, 5 Amperes, composition handle, each..	<b>.50</b>
<i>Mateless</i>	<b>2230</b>	" 21, 10 " " " "	<b>.60</b>



### Perkins Flush Plates.

<i>Rotmund</i>	20021	For 1	Switch, Plate	$3\frac{3}{4} \times 2\frac{1}{2}$ inches.	1.00
<i>Rector</i>	20022	" 1	" "	$3\frac{3}{4} \times 3$	1.25
<i>Redding</i>	20023	" 1	" "	$4\frac{1}{2} \times 3\frac{3}{4}$	1.75
<i>Redfield</i>	20024	" 2	" "	$5\frac{1}{2} \times 3\frac{1}{2}$	2.00
<i>Redford</i>	20025	" 3	" "	$8\frac{1}{2} \times 3\frac{1}{2}$	3.00
<i>Redman</i>	20026	" 4	" "	$5\frac{1}{2} \times 5\frac{1}{2}$	4.00
<i>Rednok</i>	20027	" 5	" "	$7 \times 7$	5.00
<i>Redwood</i>	20028	" 6	" "	$8\frac{1}{2} \times 5\frac{1}{2}$	6.00
<i>Redfie</i>	20029	" 8	" "	$10\frac{1}{2} \times 5\frac{1}{2}$	8.00

The above price are for *plates only*.  
Standard finish—Polished Brass or Nickel. Special finishes  
supplied as desired.



No. 9378.



No. 9379.



No. 814.



No. 815.



No. 904.

## Edison Flush Pocket Switches.

Code Word	List No.	Flush Pocket Switch, 10 Amp., 1 Switch	List Price.
<i>Ringwood</i>	9378	.....	1.75
<i>Rio</i>	9379	.....	3.00
<i>Ripley</i>	9380	.....	4.50
<i>Ripon</i>	9381	.....	6.00
<i>Ripleyville</i>	9382	.....	6.00
<i>Ritchie</i>	9383	.....	8.50
<i>Riverside</i>	9384	.....	11.00

## Paiste Three Point Switches.

## Metal Top.

Counterplot	814	5 Amperes, each...	.60
Countess	839	10 " " .....	.80

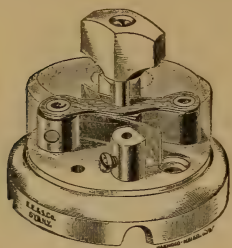
## Paiste Three Point China Switch.

## 5 Amperes.

<i>Marred</i>	815	Cream White, each.....	.90
<i>Marriage</i>	816	White, each.....	.90
<i>Married</i>	817	Ivory, " .....	.90
<i>Marring</i>	818	Black, " .....	.90
<i>Marrou</i>	819	" Roman Gold " Flaked, each .....	1.25
<i>Marry</i>	820	Band Gold, each.....	1.25
<i>Marrying</i>	821	Red, each.....	1.00
<i>Mars</i>	822	Blue, " .....	1.00
<i>Marshal</i>	823	Oak, each.....	1.00
<i>Marshaled</i>	824	Antique Oak, each.....	1.00
<i>Marshaling</i>	825	Mahogany, each.....	1.00
<i>Marshy</i>	826	Walnut, each.....	1.00

## 10 Amperes.

<i>Martyr</i>	904	White, each.....	1.50
<i>Martyrdom</i>	905	Ivory, " .....	1.50
<i>Marvel</i>	906	Black, " .....	1.50
<i>Marvelous</i>	907	" Roman Gold " Flaked, each .....	2.00
<i>Masculine</i>	908	Band Gold, each.....	2.00
<i>Mash</i>	909	Red, each.....	1.75
<i>Mashed</i>	910	Blue, " .....	1.75
<i>Mashing</i>	911	Oak, " .....	1.75
<i>Mashy</i>	912	Antique Oak, each.....	1.75
<i>Mask</i>	913	Mahogany, each.....	1.75
<i>Masked</i>	914	Walnut, each.....	1.75



No. 2579.

### E. E. & S. Three-Way Switch.

In many locations where lights are leased by contract a customer often desires to use a light in place of some other light with the use of which he can dispense for the time being and thus enable him to practically use an additional lamp without extra charge. This is permitted by using the Switch here shown. By means of this either of the two lights shown in the diagram can be lighted or extinguished, but both can never be lighted at the same time.

Code Word.

List No.

List Price.

*Marsupial*

2679 10 Amperes, each.....\$1.00



No. 65097.

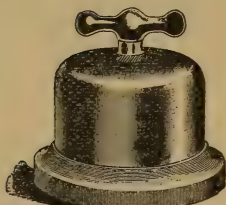
### Edison Snap Switches.

These Switches have been designed to break circuits having a potential of not over 125 volts. Flush Pocket Switches of special designs will be furnished on special orders, to suit the finish of the room.



No. 67421.

<i>Enema</i>	65097	10 Amperes, D. P., for interior conduit, each....	.85
<i>Enlay</i>	67419	Single Pole Ratchet Switch, capacity 5 amperes, plain, each.....	.50
<i>Entwine</i>	67420	Single Pole Ratchet Switch, capacity 5 amperes, polished, each.....	.40
<i>Entwined</i>	67421	Single Pole Ratchet Switch, capacity 10 amperes, plain, each.....	.70
<i>Entwining</i>	67422	Single Pole Ratchet Switch, capacity 10 amperes, polished, each.....	.60
<i>Epicure</i>	65095	10 Amperes, D. P., polished, each.....	.85
<i>Epidemic</i>	65096	10 " " nickeled, ".....	.85
<i>Epidemical</i>	65100	25 " " polished, ".....	1.40
<i>Epigram</i>	65102	25 " " nickeled, ".....	1.40
<i>Equal</i>	65120	50 " " polished, ".....	1.85
<i>Equaling</i>	65122	50 " " nickeled, ".....	1.85



No. 65095.



No. 57568.

*Equality*

57568 10 Amperes, D. P., flush pocket, each.....1.25



No. 65087.



No. 60207.



No. 65089.

Code Word.	List No.	List Price.
<i>Exception</i>	<b>65087</b>	Three-Way Ratchet Switch, capacity 5 amperes, plain, each.....
		1.50
<i>Exceptional</i>	<b>65089</b>	Three-Way Ratchet Switch, capacity 5 amperes, polished, each.....
		1.60
<i>Equalizing</i>	<b>60207</b>	Push Button Switch, for flexible cord, 1 light, polished, each.....
		.90
<i>Reynolds</i>	<b>9164</b>	Push Button Switch, for flexible cord, 10 light, polished, each.....
		1.20

### Edison Three-Way Vertical Snap Switch.

<i>Maneater</i>	<b>65098</b>	Three-way Switch, polished, 10 amperes, each..	1.00
<i>Manful</i>	<b>65099</b>	" " " nickeled, 10 " " "	1.00
<i>Manfully</i>	<b>65103</b>	" " " for interior conduit, 10 amperes, each....	1.00
<i>Manfulness</i>	<b>65104</b>	Three-way Flush Pocket Switch, nickeled, 10 amperes, each.....	1.50

### Hart Standard Switches.

These Switches are mounted on Porcelain only. The movement is rotary in one direction, by quarter turns, keeping contacts bright and free from dust, and giving the maximum length of break. The actuating spring is of the best steel wire, and as it is not in circuit, its temper cannot be affected by the current. The break is double in all sizes, and in the double pole switches the circuit is broken at four points. Although not illustrated in the cuts, all standard and flush switches, with the exception of the 50 ampere D. P., are furnished with the adjustable handle.



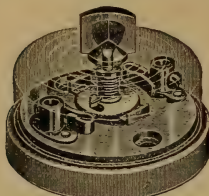
No. 8235.

### Hart 5 Ampere Single Pole Switch.

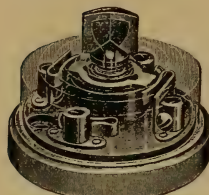
Diameter of Base,  $2\frac{1}{2}$  inches. Diameter of Cover,  $1\frac{1}{8}$  inches. Height, to Base of Handle,  $\frac{3}{4}$  inch. Total Height,  $1\frac{1}{2}$  inches. Total Break, 1 inch. Binding Posts for Wire to No. 8 B. & S.

<i>Massy</i>	<b>8235</b>	With Nickel Plated Cover, each.....	.60
<i>Massively</i>	<b>8236</b>	" Polished Brass " " ".....	.60

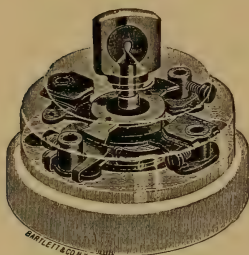




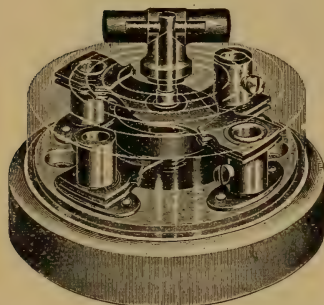
No. 8237.



No. 8239.



No. 8241 and No. 8242.



No. 8245.

### Hart 10 Ampere Single Pole Switch.

Diameter of Base,  $2\frac{1}{4}$  inches. Diameter of Cover, 2 inches. Height, to Base of Handle,  $1\frac{1}{2}$  inches. Total Height,  $1\frac{1}{2}$  inches. Total Break,  $\frac{3}{8}$  inch. Binding Posts for Wire to No. 6 B. & S.

Code Word.	List No.	List Price.
<i>Excrescent</i>	8237 With Nickel Plated Cover, each.....	\$0.80
<i>Excrescental</i>	8238 " Polished Brass " " .....	.80

### Hart 10 Ampere Double Pole Switch.

Diameter of Base,  $2\frac{1}{4}$  inches. Diameter of Cover, 2 inches. Height, to Base of Handle,  $1\frac{1}{2}$  inches. Total Height,  $1\frac{1}{2}$  inches. Total Break,  $1\frac{1}{2}$  inches. Binding Posts for Wire to No. 6 B. & S.

<i>Excrescence</i>	8239 With Nickel Plated Cover, each.....	1.50
<i>Excrescent</i>	8240 " Polished Brass " " .....	1.50

### Hart 15 Ampere Double Pole Switch.

Diameter of Base,  $2\frac{1}{2}$  inches. Diameter of Cover,  $2\frac{1}{2}$  inches. Height, to Base of Handle,  $1\frac{1}{2}$  inches. Total Height,  $2\frac{1}{2}$  inches. Total Break, 3 inches. Binding Posts for Wire to No. 5 B. & S.

<i>Excresce</i>	8241 With Nickel Plated Cover, each.....	2.00
<i>Excresced</i>	8242 " Polished Brass " " .....	2.00

### Hart 30 Ampere Double Pole Switch.

Diameter of Base,  $2\frac{1}{2}$  inches. Diameter of Cover,  $2\frac{1}{2}$  inches. Height, to Base of Handle,  $1\frac{1}{2}$  inches. Total Height,  $2\frac{1}{2}$  inches. Total Break, 3 inches. Binding Posts for Wire to No. 5 B. & S.

This Switch is the same as the 15 ampere double pole, except that the contacts and switch plates are made of phosphor bronze and hard rolled copper.

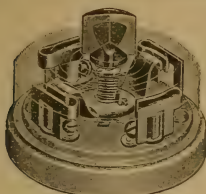
<i>Excrescing</i>	8243 With Nickel Plated Cover, each.....	2.50
<i>Excrescion</i>	8244 " Polished Brass " " .....	2.50

### Hart 50 Ampere Double Pole Switch.

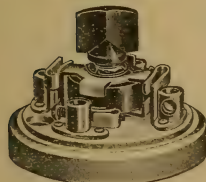
Diameter of Base,  $4\frac{1}{2}$  inches. Diameter of Cover, 4 inches. Height, to Base of Handle,  $2\frac{1}{2}$  inches. Total Height,  $3\frac{1}{2}$  inches. Total Break,  $3\frac{1}{2}$  inches. Binding Posts for Wire to No. 1 B. & S.

<i>Excrescive</i>	8245 With Nickel Plated Cover, each.....	7.00
<i>Excresitory</i>	8246 " Polished Brass " " .....	7.00





No. 8247.



No. 8249.

Code Word.  
*Exercise*  
*Exculpate*

List No.

8247 With Nickel Plated Cover, each.....\$1.50  
8248 " Polished Brass " " ..... 1.50

List Price.

### Hart 10 Ampere Four-Way Switch.

Diameter of Base, 2½ inches. Diameter of Cover, 2 inches. Height, to Base of Handle, 1½ inches. Total Height, 1¾ inches.

Counting  
Country

8249 With Nickel Plated Cover, each..... 1.60  
8250 " Polished Brass " " ..... 1.60

### Hart Flush Plates.

The Flush Plates are made of solid plate brass ¼ inch thick instead of being formed up of thin sheet metal as formerly. No screws show on the surface of the face plate, either in the single or gang plates. Single flush plates are made for all sizes of Hart Switches. Gang plates are made for any number of switches. The stock sizes are for two, three, four, six and eight switches. Five and ten ampere switches may be put on the same gang plate. Prices and dimensions of 15 and 30 ampere gang plates will be furnished upon application.

The standard finishes are nickel, bronze and polished brass. We can furnish the plates in any finish, or to match any house hardware from sample of same.

### Self-Adjusting Handle.

The collar has a vertical movement with reference to the body of the handle of 1-16 inch, and is held downward by a flat spring which it encloses and conceals. This spring-pressed collar holds the face-plate firmly against the wall with an easy, elastic pressure. The range of movement of the collar compensates for all variations liable to occur in the distance from the face of the plate to the porcelain base of the switch. This adjustment makes all handles, switches and face plates interchangeable. This adjustment is especially advantageous in gang plates. This adjustable handle is furnished with all Hart Standard and Flush Switches.

#### No. 1 Flush Plate.

ONE SWITCH.

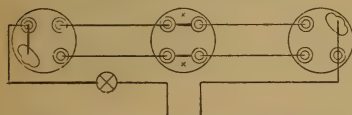
Length, 3½ inch. Width, 2½ inch. Opening required for Switch, 2¼ inch. diameter.

Masterly  
Mastership  
Masticate

8208 Plate only, nickel, each..... 1.20  
8209 " bronze, each..... 1.20  
8210 " brass, each..... 1.20



The method of connection for Three-Point Switches is shown in the above diagram.



To control lights from three points or more the Hart 4-Point Switch is used. The above diagram shows the method of making connection.



## Hart Flush Plates—(Continued).

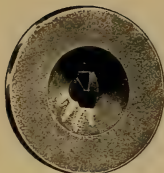
## No. 1 A Flush Plate.

Length,  $4\frac{1}{2}$  inch. Width,  $3\frac{1}{2}$  inch.

Code Word	List No.		List Price.
<i>Mastered</i>	8211	Plate only, nickel, each.....	\$1.50
<i>Mastering</i>	8212	" bronze, each.....	1.50
<i>Masterless</i>	8213	" brass, each.....	1.50

## No. 1 B Flush Plate.

## ONE SWITCH.



No. 8214.

This Plate is adapted for use with interior conduit branch boxes, and the Switches for use with same are our regular Switches, but with special porcelain basis, one and fifteen-sixteenths inches in diameter. The Switch is attached to a cast plate as with the standard Plates, and this Plate is clamped to the conduit box, and has an adjustment of one-sixteenth inch to allow for a variation in the setting of the box.

Diameter of Plate,  $2\frac{3}{4}$  inch.

<i>Mask</i>	8214	Plate only, nickel, each.....	1.20
<i>Masked</i>	8215	" bronze, each.....	1.20
<i>Masker</i>	8216	" brass, each.....	1.20



No. 8217.

## No. 1 C Lock Flush Plate.

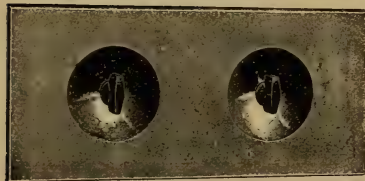
## ONE SWITCH.

Length,  $3\frac{3}{4}$  inch. Width,  $2\frac{3}{4}$  inch. Opening required,  $2\frac{1}{4}$  inch, diameter. One flat steel key is furnished with each Plate.

<i>Masker</i>	8217	Plate only, nickel, each.....	1.50
<i>Mason</i>	8218	" bronze, each.....	1.50
<i>Masonic</i>	8219	" brass, each.....	1.50

## No. 2 Flush Plate

## TWO SWITCHES.



No. 8220

Length,  $2\frac{3}{4}$  inch. Width,  $2\frac{1}{4}$  inch. Opening required,  $4\frac{1}{2} \times 2\frac{1}{2}$  inch.

These Plates can be furnished to special order with one Lock and one Handle Switch, the Lock Switch being connected in series with and controlling the use of the Handle Switch.

<i>Masonry</i>	8220	Plate only, nickel, each.....	3.00
<i>Masquerade</i>	8221	" bronze, each.....	3.00
<i>Mass</i>	8222	" brass, each.....	3.00

**Hart Flush Plates**—(Continued).**No. 3 Flush Plate.****THREE SWITCHES.**

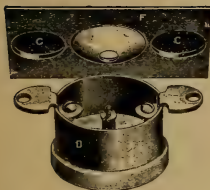
Length,  $9\frac{3}{8}$  inch. Width,  $3\frac{1}{2}$  inch. Opening required,  
 $7\frac{3}{8} \times 2\frac{1}{8}$  inch.

Code Word.	List No.	List Price.
<i>Massacre</i>	8223	Plate only, nickel, each ..... \$4.50
<i>Massacred</i>	8224	" " bronze, " ..... 4.50
<i>Massive</i>	8225	" " brass, " ..... 4.50

**No. 4 Flush Plate.****FOUR SWITCHES.**

Length,  $6\frac{3}{4}$  inch. Width,  $6\frac{1}{4}$  inch. Opening required,  
 $4\frac{1}{4} \times 1\frac{1}{2}$  inch.

<i>Exhaust</i>	8226	Plate only, nickel, each.....	6.00
<i>Exhausted</i>	8227	" " bronze, " .....	6.00
<i>Exhauster</i>	8228	" " brass, " .....	6.00

**No. 6 Flush Plate.****SIX SWITCHES.**

Length,  $9\frac{3}{8}$  inch. Width,  $6\frac{1}{8}$  inch. Opening required,  
 $7\frac{3}{8} \times 4\frac{1}{8}$  inch.

<i>Exhale</i>	8229	Plate only, nickel, each.....	7.50
<i>Exhalement</i>	8230	" " bronze, " .....	7.50
<i>Exhaling</i>	8231	" " brass, " .....	7.50

**No. 8 Flush Plate.****EIGHT SWITCHES.**

Length, 12 inch. Width,  $6\frac{1}{8}$  inch. Opening required,  
 $10 \times 4\frac{1}{8}$  inch.

<i>Exhalent</i>	8232	Plate only, nickel, each.....	9.00
<i>Exhalation</i>	8233	" " bronze, " .....	9.00
<i>Exhale</i>	8234	" " brass, " .....	9.00

**Paiste Flush Switch.**

<i>Manual</i>	915	Single pole, 10 amperes, each.....	1.30
<i>Manually</i>	916	Three point, 10 " .....	1.50

With nickel face plates. Special finishes to order.



No. 915.



No. 2219.

### Perkins Flush Switch.

Diameter of base,  $2\frac{1}{4}$  inches. Length of plate,  $3\frac{3}{8}$  inches. Width,  $2\frac{1}{2}$  inches.

Flush Switches Nos. 12 and 61 are supplied with composition handles, which is the only handle that can be used with No. 61, but the double pole Switches will be furnished with metal handles if desired.

This Switch is made in three or four point, with or without flush plates.

Code Word.	List No.	List Price.
<i>Manuscript</i>	<b>2219</b> No. 52 10 Amperes, D. P., flush, each.....	<b>\$2 25</b>
<i>Map</i>	<b>2220</b> " 53, 10 " " with key, each.....	<b>2.50</b>
<i>Maple</i>	<b>2221</b> " 61, 10 " single pole, each.....	<b>1.75</b>

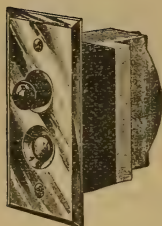
For 220 volts; will take wire up to No. 7 B. & S.



No. 8614.

### E. E. & S. Flush Switch.

<i>Mapped</i>	<b>8614</b> 5 Amperes, single pole, each.....	<b>1.25</b>
<i>Mapping</i>	<b>8615</b> 10 " " " " ".....	<b>1.50</b>
<i>Mar</i>	<b>8616</b> 5 " double " " ".....	<b>1.75</b>
<i>Maraud</i>	<b>8617</b> 10 " " " " ".....	<b>2.00</b>



No. 241 to 246.

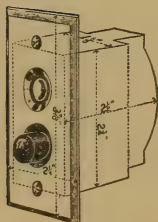
### C=S Flush Double Push Switch.

<i>Discerning</i>	<b>241</b> 10 Ampere, Single Pole, Double Break, Nickel Face, each.....	<b>2.00</b>
<i>Discerningly</i>	<b>242</b> 10 Ampere, Single Pole, Double Break, Brass Face.....	<b>2.00</b>
<i>Discharged</i>	<b>245</b> 15 Ampere, Double Pole, Double Break, Nickel Face, each.....	<b>2.50</b>
<i>Discharging</i>	<b>246</b> 15 Ampere, Double Pole, Double Break, Brass Face, each.....	<b>2.50</b>

FACE PLATES IN COLORS OTHER THAN POLISHED BRASS AND NICKEL.

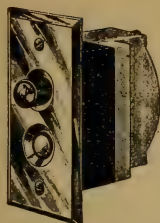
Silver, Silver Oxidized, Silver Mottled, Bronze, Bronze Oxidized, Copper Oxidized, extra beyond polished brass or nickel.....	<b>.25</b>
Bower Barfe.....	<b>.50</b>
Gold.....	<b>.75</b>

Other colors or specially designed face plates, special. Unless otherwise specified, nickel will be sent.

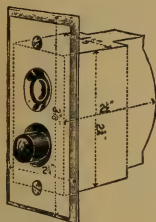


No. 241 to 246.

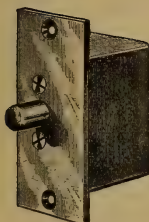




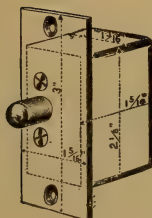
No. 247 to 250.



No. 247 to 250.



No. 251.



No. 251.

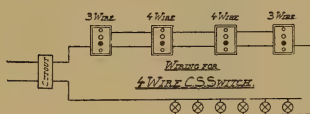
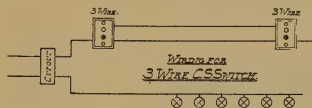
## C-S Flush Commutation Switch.

Code Word	List No.	List Price.
<i>Dischurc</i>	247	5 Ampere, Four Wire, Nickel Face, each..... <b>\$4.00</b>
<i>Dischurched</i>	248	5 " " " " Brass " " ..... <b>4.00</b>
<i>Disciple</i>	249	10 " Three " Nickel " " ..... <b>2.50</b>
<i>Discipline</i>	250	10 " " " " Brass " " ..... <b>2.50</b>

FACE PLATES IN COLORS OTHER THAN POLISHED BRASS AND NICKEL.

Silver, Silver Oxidized, Silver Mottled, Bronze, Bronze Oxidized, Copper Oxidized, extra beyond polished brass or nickel.....	<b>.25</b>
Bower Barfe.....	<b>.50</b>
Gold .....	<b>.75</b>

Other colors or specially designed face plates, special.  
Unless otherwise specified, nickel will be sent.



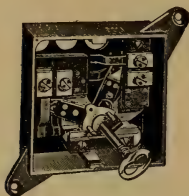
## C-S Flush Automatic Switch.

STRICTLY AUTOMATIC.—Opening door turns on the light ; closing door shuts off light. Obviates necessity of placing Switch on outside of a dark room. Adapted also to be set underneath striker-plate of door-lock, so that unlocking door from outside turns on light, while locking it from outside turns it off.

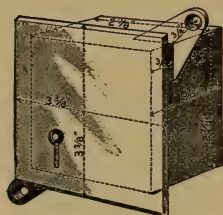
EFFICIENT BURGLAR ALARM.—Intruder confronted by a bright light immediately upon opening a door.

*Disclose*

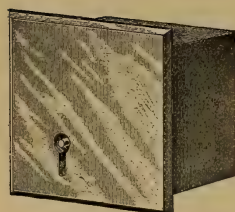
251 5 Ampere, Single Pole, Brass Face, each..... **2.00**



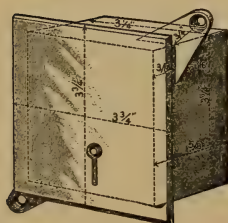
No. 254 to 258.



No. 259 and 260.



No. 259 and 260.



No. 259 and 260.

## C-S Flush Key Switch.

Code Word.	List No.	List Price.
<i>Discolor</i>	254	15 Ampere, Double Pole, Double Break, Nickel Face, each..... 2.50
<i>Discomfort</i>	255	15 Ampere, Double Pole, Double Break, Brass Face, each..... 2.50
<i>Discomfortable</i>	256	10 Ampere, Three Wire, Double Break, Nickel Face, each..... 2.50
<i>Discomforted</i>	257	10 Ampere, Three Wire, Double Break, Brass Face, each..... 2.50
<i>Discomforting</i>	258	Keys, per dozen..... 1.25

<i>Disciplined</i>	259	10 Ampere, Single Pole, Double Break, Nickel Face, each..... 2.00
<i>Disclaim</i>	260	10 Ampere, Single Pole, Double Break, Brass Face, each..... 2.00
<i>Disclaimer</i>	261	Keys, per dozen..... 1.25

## FACE PLATES IN COLORS OTHER THAN POLISHED BRASS OR NICKEL.

Silver, Silver Oxidized, Silver Mottled, Bronze, Bronze Oxidized, Bronze Mottled, extra beyond polished brass or nickel, each.....	.25
Bower Barfe.....	.50
Gold.....	.75

Other colors or specially prepared face plates, special.  
In ordering, state particularly the kind of box wanted, whether with or without lugs.

## C-S Flush Switch Accessories.

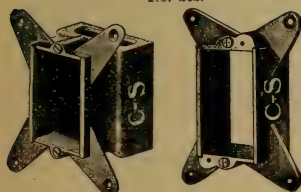
## GANG FACE PLATES FOR DOUBLE PUSH SWITCH.



Size of Gang Face Plate, Four Switches.



No. 262.



No. 20114.

No. 263.



No., 20115.

Code Word.	List No.	List Price.
<i>Discommend</i>	262	Wooden Mats, single switch, each.....
		Each additional switch, to and including 6 switches. .15

Mats beyond 6 switches, special.

## Iron Wall Box.

The Iron Wall Box is intended to be put in while the building is in process of construction. The edge of the box comes flush with the plastering. Furnished singly or in gangs of 2, 3, 4, 5 and 6.

<i>Discommode</i>	263	Iron Wall Box, single switch, each.....	.15
		Each additional switch, to and including 6 switches	.12

Boxes beyond 6 switches, special.

<i>Robe</i>	20114	For 1 Switch.....	.45
		Each additional Switch.....	.36

Hole in top and bottom of box is arranged for reception of two  $\frac{3}{8}$  or  $\frac{1}{2}$  inch brass, iron, or circular loom conduits.

<i>Robinet</i>	20115	For 1 Switch.....	.75
		Each additional Switch.....	.50

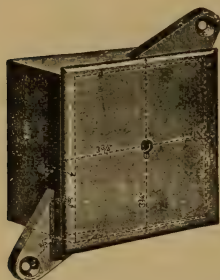
Box fitted with nipples for either  $\frac{3}{8}$  or  $\frac{1}{2}$  inch iron conduit, or, if preferred, tapped for either size tube. In ordering styles "Robe" and "Robinet" state particularly What size or fitting of conduit is required.

## Dimensions of Iron Wall Boxes.

No. Switches.	Length.		Breadth.		Depth.
1	$2\frac{1}{8}$	x	$3\frac{1}{8}$	x	$1\frac{1}{8}$
2	$3\frac{3}{8}$	x	$3\frac{1}{8}$	x	$1\frac{1}{8}$
3	$5\frac{3}{8}$	x	$3\frac{1}{8}$	x	$1\frac{1}{8}$
4	$7\frac{3}{8}$	x	$3\frac{1}{8}$	x	$1\frac{1}{8}$
5	$9\frac{3}{8}$	x	$3\frac{1}{8}$	x	$1\frac{1}{8}$
6	11	x	$3\frac{1}{8}$	x	$1\frac{1}{8}$



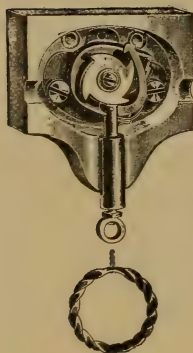
Iron Wall Box, Four Switches.



No. 2222.



No. 8618.



No. 947.

## Lock Switches.

### Perkins Lock Switch.

Code Word.	List No.	List Price.
<i>Marbled</i>	2222 No. 40, 10 Amperes, double pole, each	\$3.75
<i>March</i>	2223 " 41, 15 " " " "	4.50

For 220 Volts.

Nos. 40 and 41 are especially adapted for use where it is desirable that only authorized persons should have access to the Switch, for which purpose a spring lock fastens the flush plate to the cast iron box containing the Switch, and no one unprovided with a specially designed key can either remove the plate or turn the Switch.

This pattern has been found to be very desirable in insane asylums and similar institutions.

### E. E. & S. Lock Switch.

<i>Marched</i>	8618	5 Amperes, single pole, each	2.00
<i>Marcher</i>	8619	5 " double " "	3.00
<i>Marches</i>	8620	10 " " " "	3.50

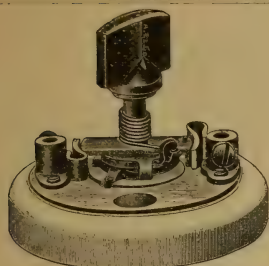
### Bryant Chandelier Switch.

<i>Exceptions</i>	947	5 Ampere, complete with 6-foot Chain and Ring, each	1.50
		Extra Brass Chain, per foot	.05
		Extra Brass Rings	.05

This Chandelier Switch is intended to be placed in the canopy of the chandelier, and is fitted with a clamping attachment on the back which clamps around the pipe, and is held in place by a set screw. Is rated at ten amperes. The chain can be dropped down between the pipe and the shell of the chandelier, or through a small hole in the canopy outside of the chandelier. It is fitted with brass ring hanging below the chandelier, the first pull of which lights the entire chandelier, the next pull cutting it off.

Chain and ring can be furnished to special finish where desired to match any finish of fixture.



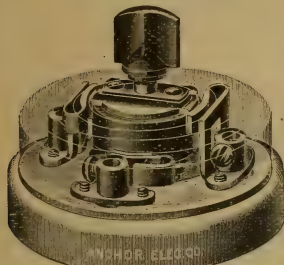


No. 20066.

## Anchor Switches.

### Single Pole.

Code Word.	List No.	List Price. Each.
Rockland 20066	5 Amperes, S. P . . . . .	\$ .30
Rock river 20067	10 " " . . . . .	.36
Rock side 20068	10 " " 500 Volt. . . . .	.72



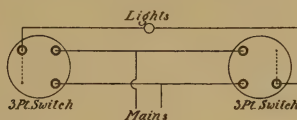
No. 20069.

### Double Pole.

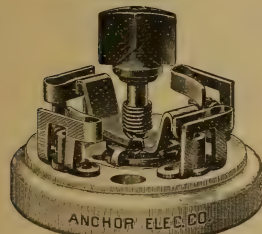
Rock springs 20069	10 Amperes, D. P. . . . .	.72
Rockton 20070	20 " " . . . . .	1.20
Rockville 20071	30 " " . . . . .	1.44

### Three Point.

Three point Switches are used to control lights from either one of two points. The method of connection is shown herewith.



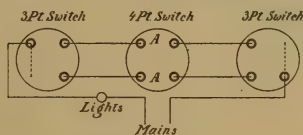
Rocky run 20072	5 Amperes, 3 pt. Switch. . . . .	.72
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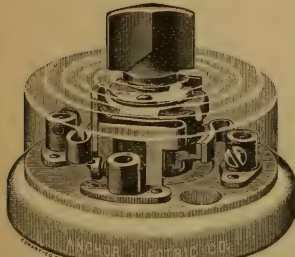
No. 20072.

### Four Point.

To control lights from three or more points, two 3 pt. switches are used at two of the points, and a 4 pt. switch at each additional point up to any desired number. The method of connection is shown below.



Rock pie 20073	4 pt. switch. . . . .	1.00
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No. 20073.



No. 20074.



Code Word.	List No.		List Price, Each.
<i>Rod</i>	20074	5 Amperes, S. P., Key.....	\$ .60
<i>Rodney</i>	20075	10 " " ".....	.66
<i>Rod corner</i>	20076	10 " 3 pt. ".....	1.02
<i>Rod point</i>	20077	10 " 4 " ".....	1.30
<i>Rod place</i>	20078	10 " S P., 500 volt, Key.....	1.02
<i>Rod torn</i>	20079	10 " D. P., Key.....	1.02
<i>Rodville</i>	20080	20 " " ".....	1.50
<i>Roddy</i>	20081	30 " " ".....	1.74



No. 20082-20083.

### Anchor Square Switchblock.

Of great convenience in leading in wires to switch, in moulded or cleat work.

<i>Rod tree</i>	20082	Fits 5, 10 Amp. S. P., 10 Amp., D. P.....	.12
<i>Rod stick</i>	20083	Fits 20 and 30 Amp., D. P.....	.14

### Anchor Push Button Switches.

These Switches are made in "gangs" to order. Switches are finished regularly in nickel.

Special finishes, copper, silver, bronzes, etc., also to imitate onyx, pearl, etc., to order.

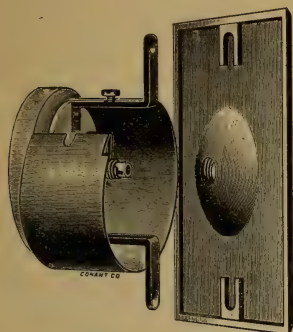


No. 20084.

<i>Rod aim</i>	20084	20 Amperes, D. P.....	2.50
<i>Rod shoot</i>	20085	20 " S. P.....	2.00
<i>Rod hill</i>	20086	20 " 3 pt.....	2.50
<i>Rod mont</i>	20087	20 " 4 pt.....	4.00

### Cast Iron Pockets for Anchor Switches.

<i>Rod mill</i>	20089	Pocket for 1 Switch.....	.15
<i>Rod pond</i>	20090	" 2 ".....	.27
<i>Rod gun</i>	20091	" 3 ".....	.39
<i>Rod city</i>	20092	" 4 ".....	.51
<i>Rod furm</i>	20093	" 5 ".....	.63
<i>Rod house</i>	20094	" 6 ".....	.75
<i>Rod burn</i>	20095	" 8 ".....	.87



### Anchor Flush Plates.

The following prices are for plates only. To obtain the net price of the plate and switches complete, add the net price of the plate to the net price of such switches as are desired.

Keys for each switch, extra each	.30
Special finish, bronze, copper, etc., each plate extra each	.25 to 1.00
Enamel imitating marble, onyx, pearl, etc., each plate extra each	1.00 to 5.00

The Anchor Flush Plates are made, except the single switch, of solid plates, one-eighth inch thick, which finish with a smooth surface.

The handle is so designed as to be practically flush.

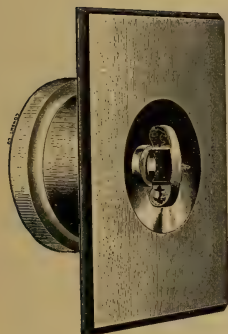
A spring beneath the handle makes the plate absolutely rigid.

Note the feature of the removable shell; by simply loosening one screw the shell may be removed for wiring.

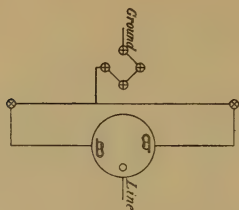
The standard finish is nickel. We can furnish the plates in any finish, or to match any house hardware, from sample, at slight extra cost, also enameled to match onyx, marble, pearl, etc. The plates project one-eighth inch from face on wall, the switch itself being recessed in the wall. The depth of recess required is given in table below. In the multiple plates any or all of the switches may be "lock" and of any size given below.

We make to order plates of any desired size other than given, and for any number of switches.

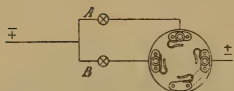
In ordering use catalogue number of plate and specify the size of switch. When special finish is required send a sample with order.



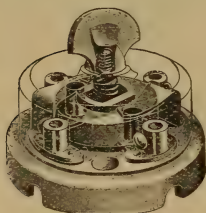
Code Word.	List No.		No. of Switches on plate.	Size Plate.	Horizontal Length Recess.	Depth Recess.	Vertical Length Recess.	List Price.
<i>Roar</i>	20096	5 and 10 amp., S. P.	1	3½ x 3	2½	2½	1½	.60
<i>Roaring</i>	20097	" " "	2	3½ x 5½	2½	4½	1½	2.10
<i>Roaring Creek</i>	20098	" " "	3	3½ x 7½	2½	6½	1½	3.30
<i>Rob</i>	20099	" " "	4	5½ x 5½	4½	4½	1½	4.20
<i>Roberts</i>	20100	" " "	6	5½ x 7½	4½	6½	1½	5.40
<i>Roberts Creek</i>	20101	" " "	8	5½ x 10	4½	8½	1½	6.75
<i>Robin</i>	20102	3 pt, 4 pt and 10 amp., D. P.	1	3½ x 3	2½	2½	1½	.60
<i>Robinson</i>	20103	" " "	2	3½ x 6½	2½	4½	1½	2.10
<i>Robinsdal</i>	20104	" " "	3	3½ x 8½	2½	7½	1½	3.30
<i>Rock</i>	20105	" " "	4	6½ x 6½	4½	4½	1½	4.20
<i>Rockbridge</i>	20106	" " "	6	6½ x 8½	4½	7½	1½	5.40
<i>Rock Creek</i>	20107	" " "	8	6½ x 11	4½	9½	1½	6.75
<i>Rock Cut</i>	20108	20 and 30 amp., D. P.	1	4½ x 4½	3½	3½	1½	1.00
<i>Rockdale</i>	20109	" " "	2	4½ x 7½	3½	6½	1½	2.25
<i>Rock Elva</i>	20110	" " "	3	4½ x 11	3½	9½	1½	3.50
<i>Rock Falls</i>	20111	" " "	4	7½ x 7½	6½	6½	1½	4.75
<i>Rock Field</i>	20112	" " "	6	7½ x 11	6½	9½	1½	6.00
<i>Rock Hill</i>	20113	" " "	8	7½ x 11½	6½	12½	1½	7.25



Connections for Two Circuit Switch.



Connections for No. 9 and Dimmer Switch.



No. 20016.

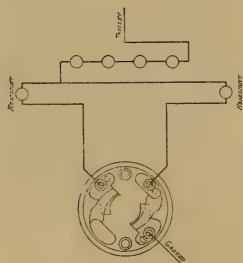


Fig. 1

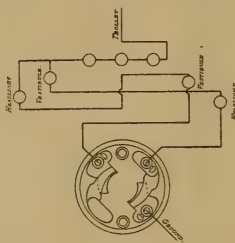


Fig. 2

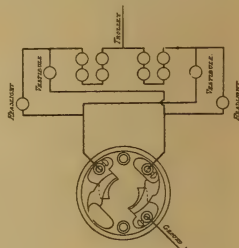


Fig. 3

## Special Switches.

### Hart Two Circuit Switch, 10 Ampere.

This Switch is especially designed for lights in electric street cars, where there are four lights inside the car and one at each end outside. The four lights inside, and one "end" light, are turned "on" and "off" successively, by the first half revolution of the switch handle. The second half revolution of the handle turns "on" and "off" the inside lights and the other "end" light.

### Hart No. 9 Switch, 10 Ampere.

The first quarter turn of the handle lights a portion of the lamps on an electrolizer; the second quarter turn lights the balance of the lamps. The third quarter turn puts out those last lighted, and the fourth quarter turn puts out those first lighted.

### Hart Dimmer Switch.

This switch is used with two lamps in series, for "night lights." The first quarter turn connects the lamps in series, giving a dim light. The second quarter turn short-circuits one of the lamps, allowing the other to burn to full candle power. The third quarter turn connects them again in series, and the fourth quarter turn opens the circuit.

The price of above switches is the same as the net price of the 10 Ampere D. P. Hart Switch.

## Head-Light Switch.

### 3 Point, 3 Amperes, 500 Volts, Double Break.

This switch will break the circuit, no additional switch being required for that purpose.

The Head-Light Switch is used in street cars when it is desired to put in circuit with the interior lights either one of the head-lights. The method of connection is shown in Figure 1. It can also be used to put in circuit with the interior lights, either head-light and the vestibule light at other end of car.

Figure 2 shows the connections for 3 interior lights, front head-light and rear vestibule light.

Figure 3 shows connections for 8 interior lights, front head-light and rear vestibule light.



## Heat Regulating Switch.

15 Amperes, 500 Volts, Quadruple Break.

This Switch is a modification of the Gibbs Switch.

The handle, upon being turned from left to right, raises by means of a screw thread cut thereon, a nut loose in the insulating block, which is then carried forward, as soon as released from a lock in the base, with great rapidity, and after a quarter revolution drops again into a lock.

The parts revolve in one direction only.

The loose contact pins, allow automatic adjustment between the points, so that when "made," contact is assured with every point by the pressure of strong spring copper brushes upon one end of the pin, forcing the other against the adjoining contact plates.

When in contact, the insulating block is free to move slightly in any direction, and can not possibly bind the contact pins.

The four simultaneous breaks of the circuit each time the switch is turned from one position to the next reduces the sparking to a minimum.

The Heat Regulating Switch is used for the regulation of heat by different combinations of the heaters.

On the commutator are four raised bosses or dials on which are printed "OFF," "1," "2," "3," respectively. These dials appear successively before a hole in the cover, and thus indicate the position of contacts in commutator.

From the "off" position, as indicated by dial, the first quarter turn connects in circuit the heaters No. 1, and figure 1 appears on dial.

The second turn throws out of circuit heaters No. 1 and connects in circuit heaters No. 2, and figure 2 appears on dial.

Heaters No. 2 being of greater capacity than No. 1, a larger amount of heat is generated.

The third turn connects heaters No. 1 and No. 2 in parallel, which gives the maximum amount of heat, and figure 3 appears on dial.

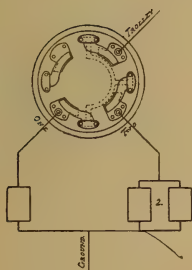
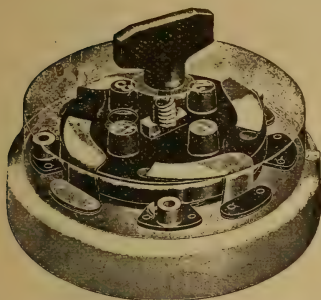
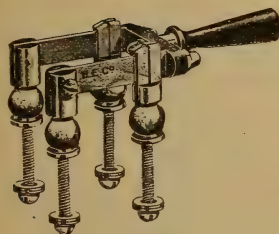


Diagram of Connections.

## Baby Knife Unmounted Switches.

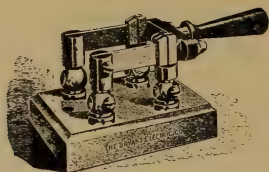
For Tablet Board Work.



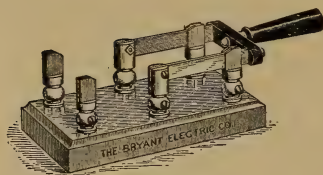
No. 20054.

Code Word.	List-No.		List Price.
<i>Ring</i>	20053	15 Amp, S. P. S. T., Unmounted, each	\$ .30
<i>Ring</i>	20054	15 " D. P. S. T., " "	.50
<i>Rio</i>	20055	15 " S. P. D. T., " "	.50
<i>Rio Creek</i>	20056	15 " D. P. D. T., " "	.70
<i>Ripley</i>	20057	15 " 3 Wire, S. T., " "	.80
<i>Ripo</i>	20058	25 " S. P. S. T., " "	.35
<i>Rising</i>	20059	25 " D. P. S. T., " "	.60
<i>Ritrock</i>	20060	25 " S. P. D. T., " "	.70
<i>Riverdane</i>	20061	25 " D. P. D. T., " "	.90
<i>Riverfalls</i>	20062	25 " 3 Wire, S. T., " "	1.00
<i>Riverhead</i>	20063	35 " D. P. S. T., " "	.90
<i>Riverside</i>	20064	35 " D. P. S. T., with fuse, unmounted, each	1.30
<i>Riverstation</i>	20065	35 " D. P. D. T., unmounted, each	1.30

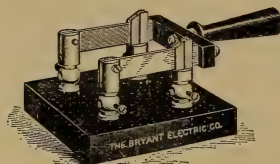
NOTE.—Prices on Unmounted Switches do not include Screws. Screws of any size and length furnished at cost.



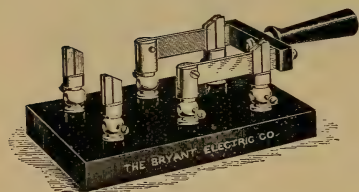
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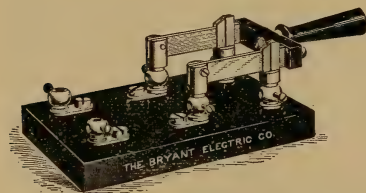
No. 20047.



No. 20050.



No. 20051.



No. 20052.

## Baby Knife Switches.

### Single Throw—Porcelain Base.

Code Word.	List No.		List Price.
<i>Richhill</i>	20040	15 Amperes, S. P. S. T., each	\$ .30
<i>Richford</i>	20041	15 " D. P. S. T. "	.50
<i>Richland</i>	20042	15 " 3 Wire, S. T. "	.80
<i>Richwood</i>	20043	25 " S. P. S. T. "	.40
<i>Richview</i>	20044	25 " D. P. S. T. "	.60
<i>Richmond</i>	20045	25 " 3 Wire, S. T. "	1.00

### Double Throw—Porcelain Base.

<i>Ridge</i>	20046	15 Amperes, S. P. D. T., each	.50
<i>Ridgecroft</i>	20047	15 " D. P. D. T. "	.80
<i>Ridgeroad</i>	20048	25 " S. P. D. T. "	.70
<i>Ridgetop</i>	20049	25 " D. P. D. T. "	1.00

### Single Throw—Slate Base.

<i>Ridgeville</i>	20050	35 Amperes, D. P. S. T., each	1.00
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### Double Throw—Slate Base.

<i>Ridgeway</i>	20051	35 Amperes, D. P. D. T., each	1.50
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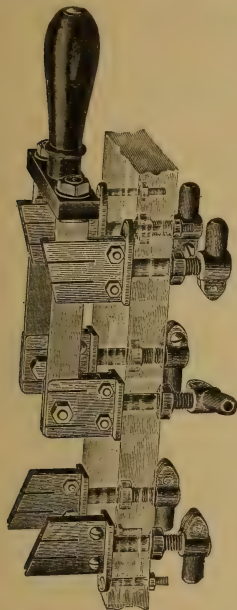
### Single Throw with Fuse—Slate Base.

<i>Riley</i>	20052	35 Amperes, D. P., with Fuse, each	1.50
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## The Western Electric Knife Switch.

## Type E.—For 220 Volts.

BACK CONNECTIONS, UNMOUNTED, FOR SWITCHBOARDS.



No. 20312.

These switches are all rolled tempered copper, and the greatest care in design and construction has been used in order to obtain a switch that would carry its rated capacity in amperes without showing any heating of its parts. In placing and fastening the jaws in position they are not soldered but bolted to the metal plates or lugs. By this method the temper of the jaws is in no way injured, and they will always grasp the blade of the switch with an equal and unvarying contact which will not deteriorate with time.

The hinge contact is made in the same way and the bolt which passes through the hinge is provided with a lock nut, preventing any liability of loosening or poor contact at this point. The blades are of drawn copper, hand finished.

The base is extended for connections on back of board and is secured in place by a lock nut. Swivel connections are provided which will admit of the circuit wires being brought into the switch from any direction.

NOTE.—These Switches are all made to gauge and any repair part can be obtained and a damaged part replaced in a few moments. These Switches are listed for switchboard work unmounted. If desired they will be furnished mounted upon slate bases with front connections, at an advance of 20 per cent. over the price of those with back connections unmounted.

Special prices quoted on Type E Switch, for 500, 1000 and 2000 volts.

## Single Pole, Single Throw.

Code Word.	List No.				List Price. Each.
<i>Robnte</i>	20282	E 11	up to	50 Ampere capacity	5.60
<i>Rotnted</i>	20283	E 21	"	75 "	6.30
<i>Robnteplane</i>	20284	E 31	"	150 "	8.10
<i>Rotnteyppump</i>	20285	E 41	"	300 "	11.90
<i>Rotntion</i>	20286	E 51	"	450 "	14.40
<i>Robntice</i>	20287	E 61	"	600 "	20.70
<i>Rotntor</i>	20288	E 71	"	800 "	26.30
<i>Robt</i>	20289	E 81	"	1200 "	43.10
<i>Robtgut</i>	20290	E 91	"	2000 "	63.40

## Single Pole, Double Throw.

<i>Rotherbensts</i>	20291	E 12	up to	50 Ampere capacity	6.70
<i>Rothernail</i>	20292	E 22	"	75 "	7.70
<i>Rothersoil</i>	20293	E 32	"	150 "	10.10
<i>Rotifer</i>	20294	E 42	"	300 "	14.70
<i>Rotiform</i>	20295	E 52	"	450 "	19.50
<i>Rotten</i>	20296	E 62	"	600 "	26.30
<i>Rottenly</i>	20297	E 72	"	800 "	34.70
<i>Rottenness</i>	20298	E 82	"	1200 "	57.00
<i>Rottenstone</i>	20299	E 92	"	2000 "	84.00



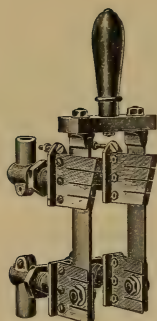
No. 20285.

## The Western Electric Knife Switch.

(Continued.)

## Type E.—For 220 Volts.

BACK CONNECTIONS, UNMOUNTED, FOR SWITCHBOARDS.



No. 20300.

## Double Pole, Single Throw.

Code Word	List No			List Price. Each.
<i>Rotular</i>	20300	E 13 up to	50 Ampere capacity	7.80
<i>Rotund</i>	20301	E 23 "	75 "	9.20
<i>Rotunda</i>	20302	E 33 "	150 "	12.90
<i>Rotundity</i>	20303	E 43 "	300 "	18.70
<i>Rotundo</i>	20304	E 53 "	450 "	25.70
<i>Rouanne</i>	20305	E 63 "	600 "	34.70
<i>Rouble</i>	20306	E 73 "	800 "	45.80
<i>Rouche</i>	20307	E 83 "	1200 "	79.40
<i>Rone</i>	20308	E 93 "	2000 "	129.10

## Double Pole, Double Throw.

<i>Ronet</i>	20309	E 14 up to	50 Ampere capacity	10.10
<i>Rouge</i>	20310	E 24 "	75 "	12.10
<i>Rough</i>	20311	E 34 "	150 "	17.00
<i>Roughcast</i>	20312	E 44 "	300 "	24.30
<i>Roughcaster</i>	20313	E 54 "	450 "	34.00
<i>Roughdrum</i>	20314	E 64 "	600 "	45.80
<i>Roughen</i>	20315	E 74 "	800 "	62.60
<i>Roughfooted</i>	20316	E 84 "	1200 "	107.20
<i>Roughhered</i>	20317	E 94 "	2000 "	161.40

## Three Pole, Single Throw.

<i>Roughhearer</i>	20318	E 15 up to	50 Ampere capacity	13.00
<i>Roughheaven</i>	20319	E 25 "	75 "	17.20
<i>Roughings</i>	20320	E 35 "	150 "	19.80
<i>Roughish</i>	20321	E 45 "	300 "	29.30
<i>Roughlegged</i>	20322	E 55 "	450 "	41.40
<i>Roughly</i>	20323	E 65 "	600 "	54.30
<i>Roughnees</i>	20324	E 75 "	800 "	71.80
<i>Roughrider</i>	20325	E 85 "	1200 "	118.30
<i>Roughscuff</i>	20326	E 95 "	2000 "	182.60

## Three Pole, Double Throw.

<i>Roughshed</i>	20327	E 16 up to	50 Ampere capacity	16.80
<i>Roughstring</i>	20328	E 26 "	75 "	21.80
<i>Rought</i>	20329	E 36 "	150 "	28.40
<i>Roughwork</i>	20330	E 46 "	300 "	38.20
<i>Rouk</i>	20331	E 56 "	450 "	54.60
<i>Rouade</i>	20332	E 66 "	600 "	71.50
<i>Roulean</i>	20333	E 76 "	800 "	97.70
<i>Roulette</i>	20334	E 86 "	1200 "	158.80
<i>Roun</i>	20335	E 96 "	2000 "	243.30



## Western Electric Quick Break Knife Switch.

## Type Q.—For 220 Volts.



No. 20366.

BACK CONNECTIONS, UNMOUNTED, FOR SWITCHBOARDS.

The Type Q is a Quick Break Knife Switch with essentially the same features as Type E, with the addition of the Quick Break Spring. This Switch is especially approved by the Underwriters for an entrance or service switch for motor work, constant potential arc or incandescent lighting as well as for switchboard work. The Switch is listed, with the exception of one size, with back connections unmounted. The Q Switch mounted with front connections on slate will be furnished at an advance of 20 per cent. over the price of the unmounted switches.

## Double Pole, Single Throw.

Code Word.	List No.	List Price. Each.
<i>Rounce</i>	20336 Q 23 up to 75 Ampere capacity .....	12.20
<i>Rouncecut</i>	20337 Q 33 " 150 " " .....	21.00
<i>Round</i>	20338 Q 43 " 300 " " .....	29.30
<i>Roundabout</i>	20339 Q 53 " 450 " " .....	37.80
<i>Roundback</i>	20340 Q 63 " 600 " " .....	60.80
<i>Roundel</i>	20341 Q 73 " 800 " " .....	79.90

## Three Pole, Single Throw.

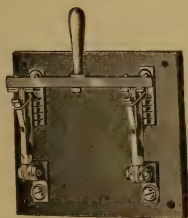
<i>Roundelay</i>	20342 Q 25 up to 75 Ampere capacity .....	18.26
<i>Rounder</i>	20343 Q 35 " 150 " " .....	31.50
<i>Roundhead</i>	20344 Q 45 " 300 " " .....	43.90
<i>Roundhouse</i>	20345 Q 55 " 450 " " .....	56.70
<i>Rounding</i>	20346 Q 65 " 600 " " .....	91.20
<i>Roundish</i>	20347 Q 75 " 800 " " .....	119.80



No. 20349.

## Two Pole, Single Throw, 220 Volts.

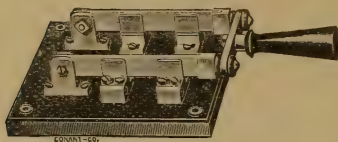
<i>Roundlet</i>	20348 Q 03 up to 25 Ampere capacity, unmounted..	2.40
<i>Roundly</i>	20349 Q 03 " 25 " " mounted ....	3.30



No. 20351.

## Two Pole, Single Throw, 500 Volts.

<i>Roundness</i>	20350 Q 03 up to 25 Ampere capacity, unmounted..	2.40
<i>Roundridge</i>	20351 Q 03 " 25 " " mounted ....	3.70

**Shawmut Knife Switches.**

Pure Copper.

Single-Pole Single-Throw.					Double-Pole Single-Throw.				
220 volts and under.					220 volts and under.				
Amperes	Plain.	Fused.	Polished.	Fused.	Amperes	Plain.	Fused.	Polished.	Fused.
25	\$2.50	\$3.10	\$3.00	\$3.75	25	\$5.00	\$6.25	\$6.00	\$7.50
50	3.00	3.75	3.50	4.40	50	6.00	7.50	7.00	8.80
75	3.75	4.65	4.50	5.50	75	7.50	9.30	9.00	11.00
100	4.75	5.80	5.75	7.00	100	9.50	11.60	11.50	14.00
200	6.00	7.25	7.50	9.00	200	12.00	14.50	15.00	18.00
300	7.50	9.00	9.50	11.50	300	15.00	18.00	19.00	23.00
400	9.50	11.50	12.00	14.75	400	19.00	23.00	24.00	29.50
600	12.50	15.50	16.25	20.25	600	25.00	31.00	32.00	40.50
800	17.50	22.00	23.00	28.25	800	35.00	44.00	46.00	50.50
1000	25.00	31.00	30.00	37.50	1000	50.00	63.00	60.00	75.00

Single-Pole Double-Throw.					Double-Pole Double-Throw				
220 volts and under.					220 volts and under.				
Amperes	Plain.	Fused.	Polished.	Fused.	Amperes	Plain.	Fused.	Polished.	Fused.
25	3.25	4.00	4.00	5.00	25	6.50	8.00	8.00	10.00
50	4.00	5.00	4.75	6.00	50	8.00	10.00	9.50	12.00
75	5.00	6.25	6.00	7.50	75	10.00	12.50	12.00	15.00
100	6.25	7.75	7.50	9.35	100	12.50	15.50	15.00	18.70
200	8.00	10.00	10.00	12.25	200	16.00	20.00	20.00	24.50
300	10.00	12.25	12.75	16.00	300	20.00	24.50	25.50	32.00
400	12.75	16.00	16.00	20.00	400	25.50	32.00	32.00	40.00
600	16.75	21.50	21.75	27.00	600	33.50	43.00	43.50	54.00
800	23.25	29.00	26.75	33.50	800	46.50	58.00	53.50	67.00
1000	33.25	40.00	40.00	44.00	1000	66.50	80.00	80.00	88.00

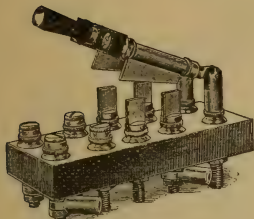
Three-Pole Single-Throw.					Three-Pole Double-Throw.				
220 volts and under.					220 volts and under.				
Amperes	Plain.	Fused.	Polished.	Fused.	Amperes	Plain.	Fused.	Polished.	Fused.
25	7.00	9.30	9.00	11.25	25	10.00	12.25	12.00	15.00
50	9.00	11.25	10.75	13.20	50	12.00	15.00	14.00	17.50
75	11.00	12.95	13.50	16.50	75	15.00	18.75	18.00	22.50
100	14.00	17.40	17.00	21.00	100	19.00	23.75	23.00	28.75
200	18.00	21.75	22.50	27.00	200	24.00	30.00	30.00	37.50
300	22.50	27.00	28.50	34.50	300	30.00	37.50	38.00	47.50
400	28.50	34.50	36.00	44.25	400	38.00	47.50	48.00	60.00
600	37.50	46.50	48.50	60.75	600	50.00	62.50	65.00	82.00
800	52.50	66.00	60.00	75.75	800	70.00	87.50	80.00	100.00
1000	75.00	94.80	90.00	112.50	1000	100.00	125.00	100.00	150.00

## Style "H" Station Switches for Back Connections.

In this Switch the arm is made sectional as the illustration shows. The blade is of hard drawn copper, securely held in the slotted tube by the end plugs and bushings.

From 25 to 1000 Amperes.

PRICE LIST.



Style "H" Station Switch for Back Connections.



Cut showing mechanical connection of arm.

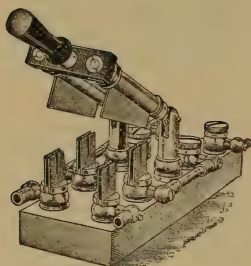
Capacity in Amperes		WITH FUSE TERMINALS.		WITHOUT FUSE TERMINALS.	
		Polished.	Plain.	Polished.	Plain.
25	Single Pole, Single Throw,	\$ 2.60	\$ 2.35	\$ 2.20	\$ 2.00
25	Single " Double "	4.00	3.60	3.20	2.85
25	Double " Single "	4.75	4.25	3.80	3.40
25	Double " Double "	8.50	7.65	6.80	6.10
25	Triple " Single "	6.00	5.40	4.80	4.30
25	Triple " Double "	10.70	9.60	8.50	7.65
50	Single " Single "	5.50	5.00	4.40	4.00
50	Single " Double "	8.50	7.65	6.80	6.10
50	Double " Single "	10.00	9.00	8.00	7.20
50	Double " Double "	18.00	16.20	14.40	12.00
50	Triple " Single "	12.70	11.40	10.00	9.00
50	Triple " Double "	22.50	19.25	18.00	16.20
75	Single " Single "	7.10	6.40	5.60	5.00
75	Single " Double "	11.00	9.90	8.80	7.90
75	Double " Single "	13.00	11.70	10.40	9.35
75	Double " Double "	23.40	21.00	18.70	16.80
75	Triple " Single "	16.50	14.80	13.20	11.85
75	Triple " Double "	29.00	26.00	25.20	22.65
100	Single " Single "	8.25	7.40	6.60	6.00
100	Single " Double "	12.75	11.45	10.40	9.39
100	Double " Single "	15.00	13.50	12.00	10.80
100	Double " Double "	27.00	24.30	21.60	19.40
100	Triple " Single "	19.00	17.00	15.20	13.50
100	Triple " Double "	33.75	30.30	27.00	24.25
150	Single " Single "	9.00	8.00	7.20	6.50
150	Single " Double "	14.00	12.60	11.20	10.00
150	Double " Single "	16.50	14.80	13.20	11.80
150	Double " Double "	29.70	26.70	25.75	23.00
150	Triple " Single "	20.90	17.80	16.75	15.00
150	Triple " Double "	37.00	33.30	29.60	26.50
200	Single " Single "	11.00	9.90	8.80	8.00
200	Single " Double "	17.00	15.30	13.60	12.25
200	Double " Single "	20.00	18.00	16.00	14.40
200	Double " Double "	36.20	32.50	28.90	26.00
200	Triple " Single "	25.30	22.75	20.25	18.00
200	Triple " Double "	54.00	48.60	43.20	38.80
300	Single " Single "	15.40	13.80	12.30	11.00
300	Single " Double "	23.80	21.40	19.00	17.00
300	Double " Single "	28.00	25.20	22.40	20.00
300	Double " Double "	50.00	45.00	40.00	36.00
300	Triple " Single "	35.50	32.00	28.40	25.50
300	Triple " Double "	63.00	56.70	50.40	45.30
400	Single " Single "	18.70	16.80	15.00	13.50
400	Single " Double "	28.90	26.00	23.10	20.50
400	Double " Single "	34.00	30.60	27.20	24.40
400	Double " Double "	61.20	55.00	48.90	44.00
400	Triple " Single "	43.00	38.70	34.40	30.80
400	Triple " Double "	80.00	72.00	64.00	57.60
600	Single " Single "	25.30	22.75	20.20	18.00
600	Single " Double "	39.00	35.00	31.20	28.00
600	Double " Single "	46.00	41.40	36.80	33.00
600	Double " Double "	82.00	73.80	65.60	59.00
600	Triple " Single "	68.30	61.50	54.60	49.00
600	Triple " Double "	98.00	88.20	78.40	70.50
1000	Single " Single "	40.00	36.00	32.00	28.80
1000	Single " Double "	63.00	56.70	50.00	45.00
1000	Double " Single "	74.00	66.60	59.20	53.25
1000	Double " Double "	132.00	118.00	105.60	95.00
1000	Triple " Single "	93.00	83.00	74.40	67.00
1000	Triple " Double "	166.00	150.00	132.00	118.00

These prices are for parts mounted on slate. Extra charge for marble.

## Style "H" Station Switches for Front Connections.

From 25 to 1000 Amperes.

PRICE LIST.



Style "H" Station Switch for Front Connections.



Cut showing mechanical connection of arm.

Capacity in Amperes			WITH FUSE TERMINALS.		WITHOUT FUSE TERMINALS.	
			Polished.	Plain.	Polished.	Plain.
25	Single Pole,	Single Throw,	\$ 2.75	\$ 2.50	\$ 2.30	\$ 2.10
25	Single "	Double "	4.20	3.80	3.35	3.00
25	Double "	Single "	5.00	4.45	4.00	3.60
25	Double "	Double "	8.90	8.00	7.15	6.45
25	Triple "	Single "	6.30	5.65	5.00	4.50
25	Triple "	Double "	11.20	10.00	8.80	8.00
50	Single "	Single "	5.75	5.25	4.60	4.10
50	Single "	Double "	9.90	8.00	7.20	6.50
50	Double "	Single "	10.50	9.50	8.40	7.50
50	Double "	Double "	19.00	17.00	15.20	13.20
50	Triple "	Single "	13.30	12.00	10.60	9.50
50	Triple "	Double "	23.50	20.00	18.80	17.00
75	Single "	Single "	7.40	6.75	5.90	5.30
75	Single "	Double "	11.50	10.20	9.20	8.25
75	Double "	Single "	13.60	12.25	10.50	9.50
75	Double "	Double "	24.60	22.00	19.60	17.75
75	Triple "	Single "	17.50	15.50	14.00	12.60
75	Triple "	Double "	30.50	27.30	24.40	22.00
100	Single "	Single "	8.45	7.75	6.75	6.10
100	Single "	Double "	13.40	12.00	10.72	9.70
100	Double "	Single "	15.75	14.25	12.60	11.40
100	Double "	Double "	28.25	25.50	22.60	20.40
100	Triple "	Single "	20.00	17.85	16.00	14.40
100	Triple "	Double "	34.25	31.80	27.40	24.70
150	Single "	Single "	9.50	8.40	7.65	6.90
150	Single "	Double "	14.75	13.25	11.80	10.70
150	Double "	Single "	17.30	15.50	13.80	12.50
150	Double "	Double "	31.20	28.00	25.00	22.50
150	Triple "	Single "	22.00	19.75	17.60	15.90
150	Triple "	Double "	38.85	35.00	31.00	28.00
200	Single "	Single "	11.50	10.40	9.20	8.30
200	Single "	Double "	17.80	16.00	14.00	12.60
200	Double "	Single "	21.00	19.00	16.80	15.20
200	Double "	Double "	38.00	35.20	30.00	27.00
200	Triple "	Single "	26.50	24.00	21.25	19.00
200	Triple "	Double "	56.50	50.00	45.00	40.00
300	Single "	Single "	16.20	14.60	13.00	11.70
300	Single "	Double "	25.00	22.50	20.00	18.00
300	Double "	Single "	29.40	26.50	23.50	21.00
300	Double "	Double "	52.50	47.25	42.00	37.75
300	Triple "	Single "	37.25	33.50	29.80	27.00
300	Triple "	Double "	66.50	63.20	53.00	48.00
400	Single "	Single "	19.60	17.60	15.75	14.25
400	Single "	Double "	30.25	27.00	24.20	21.80
400	Double "	Single "	35.70	32.20	28.50	26.00
400	Double "	Double "	64.00	57.00	51.00	46.00
400	Triple "	Single "	45.00	40.00	36.40	32.80
400	Triple "	Double "	84.00	75.00	67.00	60.00
600	Single "	Single "	26.50	23.90	21.25	19.00
600	Single "	Double "	40.80	36.50	32.50	29.25
600	Double "	Single "	48.30	43.50	38.50	34.00
600	Double "	Double "	86.00	78.00	68.75	61.50
600	Triple "	Single "	71.25	64.00	57.00	51.50
600	Triple "	Double "	102.00	92.00	80.00	72.00
1000	Single "	Single "	42.00	37.20	33.00	30.00
1000	Single "	Double "	66.00	60.00	53.00	48.00
1000	Double "	Single "	77.75	70.00	62.00	55.00
1000	Double "	Double "	138.00	124.00	110.00	100.00
1000	Triple "	Single "	97.00	87.50	77.00	70.00
1000	Triple "	Double "	174.00	156.50	132.00	120.00

These prices are for parts mounted on slate. Extra charge for marble.



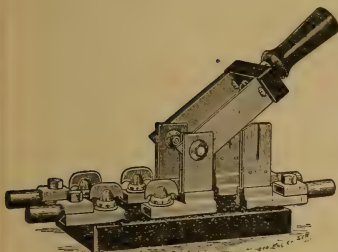
## Single Break Station Switches for either Front or Back Connections.

These Switches are chiefly designed for plain work and where economy of space is desired.

Pure drawn copper is used for the blades and contact clips.

From 25 to 1000 Amperes.

PRICE LIST.



Capacity in Amperes		WITH FUSE TERMINALS.		WITHOUT FUSE TERMINALS.	
		Polished.	Plain.	Polished.	Plain.
25	Single Pole, Single Throw,	\$ 2.40	\$ 2.00	\$ 2.15	\$ 1.80
25	Single " Double "	4.00	3.60	3.20	2.85
25	Double " Single "	3.95	3.30	3.60	3.00
25	Double " Double "	7.20	6.00	6.00	5.10
25	Triple " Single "	5.60	4.60	4.80	4.20
25	Triple " Double "	9.60	7.80	8.40	7.20
50	Single " Single "	5.50	5.00	4.40	4.00
50	Single " Double "	8.50	7.65	6.80	6.10
50	Double " Single "	9.60	7.80	8.00	7.20
50	Double " Double "	16.80	13.80	14.40	12.00
50	Triple " Single "	12.70	10.55	10.00	9.00
50	Triple " Double "	22.50	19.20	18.00	16.20
75	Single " Single "	7.10	6.40	5.60	5.00
75	Single " Double "	11.00	9.90	8.80	7.90
75	Double " Single "	12.00	10.45	10.40	9.00
75	Double " Double "	19.20	16.20	18.00	15.30
75	Triple " Single "	16.50	14.40	13.20	11.85
75	Triple " Double "	29.00	26.00	25.20	22.05
100	Single " Single "	8.25	7.20	6.60	6.00
100	Single " Double "	12.75	11.45	10.40	9.39
100	Double " Single "	14.40	12.00	12.00	10.80
100	Double " Double "	25.20	21.00	21.60	18.75
100	Triple " Single "	19.00	17.00	15.20	13.50
100	Triple " Double "	33.75	30.80	27.00	24.25
150	Single " Single "	9.00	8.00	7.20	6.50
150	Single " Double "	14.00	12.60	11.20	10.00
150	Double " Single "	16.50	13.80	13.20	11.80
150	Double " Double "	29.40	24.60	25.50	21.10
150	Triple " Single "	20.90	18.80	16.75	15.00
150	Triple " Double "	37.00	33.30	29.60	26.50
200	Single " Single "	11.00	9.00	8.80	8.00
200	Single " Double "	17.00	15.30	13.60	12.25
200	Double " Single "	19.20	15.60	16.00	14.40
200	Double " Double "	33.60	27.60	28.90	24.60
200	Triple " Single "	25.30	22.75	20.25	18.00
200	Triple " Double "	48.00	40.20	42.60	35.40
300	Single " Single "	13.20	11.10	12.30	10.20
300	Single " Double "	23.40	19.20	19.00	17.00
300	Double " Single "	21.60	18.00	20.10	16.80
300	Double " Double "	38.40	32.40	34.20	28.50
300	Triple " Single "	32.40	26.40	28.40	24.60
300	Triple " Double "	56.40	46.80	50.10	41.70
400	Single " Single "	14.40	12.00	13.20	11.10
400	Single " Double "	25.80	21.00	22.80	18.90
400	Double " Single "	24.60	20.70	22.80	19.20
400	Double " Double "	43.80	36.60	39.00	32.40
400	Triple " Single "	36.60	30.60	34.20	28.20
400	Triple " Double "	64.80	54.00	57.60	48.00
600	Single " Single "	21.60	18.00	19.20	15.90
600	Single " Double "	36.60	30.60	31.20	27.00
600	Double " Single "	33.60	28.80	31.44	25.80
600	Double " Double "	60.00	49.20	52.80	43.80
600	Triple " Single "	50.40	42.00	46.20	38.40
600	Triple " Double "	88.80	74.40	78.30	65.40
1000	Single " Single "	38.40	32.40	31.20	27.00
1000	Single " Double "	63.00	54.00	50.00	45.00
1000	Double " Single "	72.00	60.00	59.20	53.25
1000	Double " Double "	120.00	103.20	105.00	90.00
1000	Triple " Single "	96.00	83.00	74.40	67.00
1000	Triple " Double "	166.00	150.00	132.00	118.00

These prices are for parts mounted on slate. Extra charge for marble.

## Station Switches.

## Single Pole, Single Throw.



No. 8265.

Code Word.	List No.		List Price.
<i>Exemplify</i>	8265	15 Amperes, plain, no fuse, each	\$1.75
<i>Exemplifying</i>	8266	25 " " " "	3.00
<i>Exempt</i>	8267	50 " " " "	3.50
<i>Exempted</i>	8268	75 " " " "	4.25
<i>Exempting</i>	8269	100 " " " "	5.50
<i>Exercise</i>	8270	200 " " " "	7.00
<i>Exercised</i>	8271	300 " " " "	8.75
<i>Exercising</i>	8272	400 " " " "	11.00
<i>Exert</i>	8273	600 " " " "	14.50
<i>Exerted</i>	8274	800 " " " "	20.50
<i>Exertment</i>	8275	1000 " " " "	29.50
<i>Exhausting</i>	8287	15 " polished, no fuse, each	2.00
<i>Exhaustion</i>	8288	25 " " " "	3.50
<i>Exhaustive</i>	8289	50 " " " "	4.25
<i>Exhaustment</i>	8290	75 " " " "	5.50
<i>Exhibit</i>	8291	100 " " " "	7.00
<i>Exhibited</i>	8292	200 " " " "	8.75
<i>Exhibiting</i>	8293	300 " " " "	11.00
<i>Exhibition</i>	8294	400 " " " "	14.50
<i>Exhibitive</i>	8295	600 " " " "	19.00
<i>Exhilarate</i>	8296	800 " " " "	24.00
<i>Exhilarated</i>	8297	1000 " " " "	35.00
<i>Exhort</i>	8276	15 " plain, with fuse, "	2.50
<i>Exhorted</i>	8277	25 " " " "	3.75
<i>Exhorting</i>	8278	50 " " " "	4.25
<i>Exhume</i>	8279	75 " " " "	5.50
<i>Exhuming</i>	8280	100 " " " "	7.00
<i>Exile</i>	8281	200 " " " "	8.50
<i>Excitement</i>	8282	300 " " " "	10.50
<i>Exiling</i>	8283	400 " " " "	13.50
<i>Exist</i>	8284	600 " " " "	18.00
<i>Existence</i>	8285	800 " " " "	26.00
<i>Existent</i>	8286	1000 " " " "	37.00
<i>Existing</i>	8298	15 " polished, with fuse, each	3.00
<i>Exit</i>	8299	25 " " " "	4.50
<i>Exode</i>	8300	50 " " " "	5.25
<i>Exodus</i>	8301	75 " " " "	6.50
<i>Exonerate</i>	8302	100 " " " "	8.50
<i>Exonerated</i>	8303	200 " " " "	10.50
<i>Exotic</i>	8304	300 " " " "	13.50
<i>Expand</i>	8305	400 " " " "	17.50
<i>Expanded</i>	8306	600 " " " "	24.00
<i>Expanding</i>	8307	800 " " " "	30.00
<i>Expanse</i>	8308	1000 " " " "	44.00

## Single Pole, Double Throw.



No. 8000.

<i>Expansion</i>	8000	25 Amperes, plain, no fuse, each	4.00
<i>Expansive</i>	8001	50 " " " "	4.75
<i>Expatiate</i>	8002	75 " " " "	5.75
<i>Expectant</i>	8003	100 " " " "	7.50
<i>Expectorate</i>	8004	200 " " " "	9.50
<i>Expedient</i>	8005	300 " " " "	12.00
<i>Expedite</i>	8006	400 " " " "	16.00
<i>Ezekiel</i>	8007	600 " " " "	22.00
<i>Ezra</i>	8008	800 " " " "	30.00
<i>Exertion</i>	8009	1000 " " " "	45.00







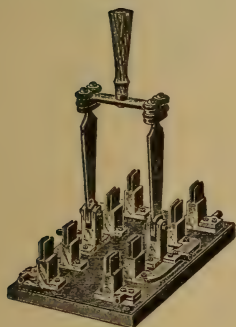
## Station Switches—(Continued).

## Three Pole, Single Throw.

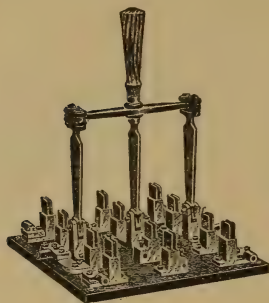
Code Word.	List No.		List Price.
<i>Enjoin</i>	8157	15 Amperes, polished, with fuse, each	\$5.00
<i>Enjoined</i>	8158	25 " " " " " "	13.25
<i>Enjoining</i>	8159	50 " " " " " "	15.50
<i>Enjoivement</i>	8160	75 " " " " " "	19.00
<i>Enjoy</i>	8161	100 " " " " " "	24.25
<i>Enjoyable</i>	8162	200 " " " " " "	33.00
<i>Ezerting</i>	8163	300 " " " " " "	43.00
<i>Enjoyed</i>	8164	400 " " " " " "	56.00
<i>Enjoying</i>	8165	600 " " " " " "	75.50
<i>Enjoyment</i>	8166	800 " " " " " "	96.00
<i>Enjail</i>	8167	1000 " " " " " "	140.00

## Double Pole, Double Throw.

<i>Enhance</i>	8084	25 Amperes, plain, no fuse, each	7.75
<i>Enhanced</i>	8085	50 " " " " " "	9.50
<i>Enhancement</i>	8086	75 " " " " " "	11.75
<i>Enhancer</i>	8087	100 " " " " " "	14.75
<i>Enhancing</i>	8088	200 " " " " " "	18.75
<i>Enhabor</i>	8089	300 " " " " " "	25.00
<i>Enharden</i>	8090	400 " " " " " "	32.00
<i>Enigma</i>	8091	600 " " " " " "	42.00
<i>Enigmatis</i>	8092	800 " " " " " "	58.00
<i>Enigmatiz</i>	8093	1000 " " " " " "	80.00
<i>Engraving</i>	8104	25 " polished, no fuse, each	9.50
<i>Engross</i>	8105	50 " " " " " "	11.00
<i>Engrossed</i>	8106	75 " " " " " "	14.00
<i>Engrossing</i>	8107	100 " " " " " "	17.50
<i>Engrossment</i>	8108	200 " " " " " "	23.50
<i>Enguard</i>	8109	300 " " " " " "	32.00
<i>Engulf</i>	8110	400 " " " " " "	40.00
<i>Engulfed</i>	8111	600 " " " " " "	56.00
<i>Engulfing</i>	8112	800 " " " " " "	68.00
<i>Engulfment</i>	8113	1000 " " " " " "	100.00
<i>Engorgement</i>	8094	25 " plain, with fuse, each	10.50
<i>Engorging</i>	8095	50 " " " " " "	13.00
<i>Engrail</i>	8096	75 " " " " " "	16.00
<i>Engrain</i>	8097	100 " " " " " "	19.50
<i>Engrained</i>	8098	200 " " " " " "	25.50
<i>Engrappe</i>	8099	300 " " " " " "	33.00
<i>Engrave</i>	8100	400 " " " " " "	43.00
<i>Engraved</i>	8101	600 " " " " " "	58.00
<i>Engraven</i>	8102	800 " " " " " "	80.00
<i>Engravement</i>	8103	1000 " " " " " "	110.00
<i>Enring</i>	8114	25 " polished, with fuse, each	13.00
<i>Enrobe</i>	8115	50 " " " " " "	15.25
<i>Enrobing</i>	8116	75 " " " " " "	18.75
<i>Enroll</i>	8117	100 " " " " " "	23.50
<i>Enrolled</i>	8118	200 " " " " " "	31.00
<i>Enrollment</i>	8119	300 " " " " " "	42.00
<i>Enroot</i>	8120	400 " " " " " "	54.00
<i>Enrooted</i>	8121	600 " " " " " "	74.00
<i>Enrooting</i>	8122	800 " " " " " "	92.00
<i>Enseal</i>	8123	1000 " " " " " "	135.00



No. 8084.



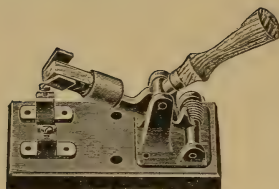
No. 8168.

## Station Switches—(Continued).

## Three Pole, Double Throw.

Code Word.	List No.		List Price.
<i>Enshield</i>	8168	25 Amperes, plain, no fuse, each	\$11.75
<i>Enshrine</i>	8169	50 " " " "	14.00
<i>Enshroud</i>	8170	75 " " " "	17.50
<i>Ensign</i>	8171	100 " " " "	22.50
<i>Ensigncy</i>	8172	200 " " " "	28.00
<i>Enslure</i>	8173	300 " " " "	36.00
<i>Enslaving</i>	8174	400 " " " "	48.00
<i>Enslue</i>	8175	600 " " " "	63.00
<i>Enslung</i>	8176	800 " " " "	88.00
<i>Entail</i>	8177	1000 " " " "	124.00
<i>Enticingly</i>	8188	25 " polished, no fuse, each	14.00
<i>Entireness</i>	8189	50 " " " "	16.50
<i>Entitle</i>	8190	75 " " " "	21.00
<i>Entoil</i>	8191	100 " " " "	26.75
<i>Entrance</i>	8192	200 " " " "	35.00
<i>Entranced</i>	8193	300 " " " "	47.00
<i>Entrap</i>	8194	400 " " " "	59.00
<i>Entreat</i>	8195	600 " " " "	78.00
<i>Entreated</i>	8196	800 " " " "	99.00
<i>Entreating</i>	8197	1000 " " " "	148.00
<i>Entailed</i>	8178	25 " plain, with fuse, each	16.00
<i>Entailing</i>	8179	50 " " " "	19.25
<i>Entailment</i>	8180	75 " " " "	23.75
<i>Entangle</i>	8181	100 " " " "	29.50
<i>Entangled</i>	8182	200 " " " "	36.75
<i>Entangling</i>	8183	300 " " " "	48.00
<i>Entering</i>	8184	400 " " " "	61.00
<i>Enterprise</i>	8185	600 " " " "	84.00
<i>Enterprise</i>	8186	800 " " " "	120.00
<i>Enterprise</i>	8187	1000 " " " "	166.00
<i>Entertain</i>	8198	25 " polished, with fuse, each	19.25
<i>Enthrone</i>	8199	50 " " " "	22.75
<i>Enthroned</i>	8200	75 " " " "	28.00
<i>Enthrone</i>	8201	100 " " " "	35.50
<i>Enthrone</i>	8202	200 " " " "	46.00
<i>Enthusiasm</i>	8203	300 " " " "	60.00
<i>Enthusiast</i>	8204	400 " " " "	78.00
<i>Entice</i>	8205	600 " " " "	109.00
<i>Enticement</i>	8206	800 " " " "	138.00
<i>Enticing</i>	8207	1000 " " " "	200.00

Constructed on the same general principles as our other Station Switches; held open or closed by a positive spring-lock.



No. 8253.

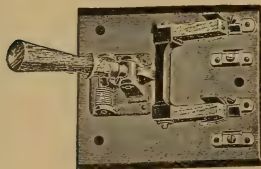
## Hill Switch.

## Single Pole.

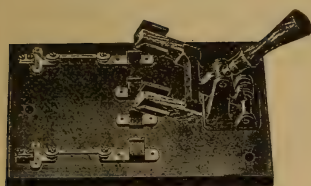
<i>Excuser</i>	8253	25 Amperes, each	2.00
<i>Excusing</i>	8254	50 " " "	2.75
<i>Excute</i>	8255	100 " " "	4.00
<i>Excuted</i>	8256	200 " " "	6.00

## Double Pole.

<i>Executing</i>	8257	25 Amperes, each	3.00
<i>Execution</i>	8258	50 " " "	4.50
<i>Executioner</i>	8259	100 " " "	6.00
<i>Executive</i>	8260	200 " " "	8.50



No. 8257.

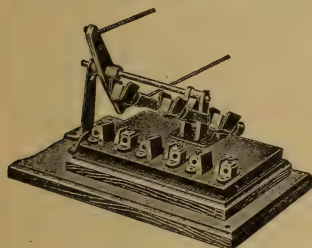


No. 8261.

### Dynamo Switch.

With this Switch and simple bus bar connections a very neat and convenient switchboard for a good-sized isolated plant can be made at a very small expense.

Code Word.	List No.	List Price.
<i>Erecutor</i>	8261 " 25 Amperes, each. ....	\$ 4.25
<i>Erecutary</i>	8262 50 " " .....	6.50
<i>Erecutress</i>	8263 100 " " .....	9.50
<i>Erecutplary</i>	8264 200 " " .....	13.00



No. 8251.

### Elevator Switch.

<i>Elevably</i>	8251 3 Pole, 100 Amperes, each. ....	15.00
<i>Elevase</i>	8252 2 " 100 " " .....	12.00

### Single Pole Blade Switches.

MOUNTED ON MARBLEIZED SLATE BASES.

With Safety Catch Holders.

<i>Mentor</i>	8309 Capacity in Amperes, up to 25, plain, each ....	1.65
<i>Mercurary</i>	8311 " " " 25, polished " ....	2.00
<i>Mercer</i>	8312 " " " 50, plain " ....	4.95
<i>Merchunt</i>	8314 " " " 50, polished " ....	5.95
<i>Merciless</i>	8316 " " " 100, plain " ....	6.05
<i>Mercury</i>	8317 " " " 100, polished " ....	7.10
<i>Rocknary</i>	20118 " " " 200, plain " ....	8.25
<i>Rockod</i>	20119 " " " 200, polished " ....	9.90
<i>Mercy</i>	8318 " " " 300, plain " ....	9.10
<i>Merge</i>	8320 " " " 300, polished " ....	10.90
<i>Merged</i>	8321 " " " 400, plain " ....	9.90
<i>Meridian</i>	8323 " " " 400, polished " ....	11.90
<i>Merino</i>	8324 " " " 600, plain " ....	14.30
<i>Merited</i>	8326 " " " 600, polished " ....	17.15



No. 8309.

Without Safety Catch Holders.

<i>Mottler</i>	8327 Capacity in Amperes up to 25, plain, each ....	1.50
<i>Mottite</i>	8329 " " " 25, polished " ....	1.80
<i>Rockcourt</i>	20120 " " " 50, plain " ....	4.55
<i>Rockork</i>	20121 " " " 50, polished " ....	5.45
<i>Meditating</i>	8330 " " " 100, plain " ....	5.60
<i>Medial</i>	8332 " " " 100, polished " ....	6.75
<i>Medically</i>	8333 " " " 200, plain " ....	7.65
<i>Medicated</i>	8335 " " " 200, polished " ....	9.20
<i>Milked</i>	8336 " " " 300, plain " ....	8.40
<i>Milkmaid</i>	8338 " " " 300, polished " ....	10.10
<i>Milkman</i>	8339 " " " 400, plain " ....	9.15
<i>Milky</i>	8341 " " " 400, polished " ....	11.50
<i>Milk</i>	8342 " " " 600, plain " ....	13.25
<i>Millet</i>	8344 " " " 600, polished " ....	15.90

## Single Pole Blade Switches—(Continued).

## With Safety Catch Holders.

Code Word.	List No.	Capacity in Amperes up to 800, plain	each	List Price.
<i>Rockress</i>	20122	"	"	\$22.99
<i>Rockdow</i>	20123	"	" 800, polished	27.61
<i>Milling</i>	8345	"	" 1200, plain	30.25
<i>Mimic</i>	8347	"	" 1200, polished	36.30
<i>Minical</i>	8348	"	" 1800, plain	42.35
<i>Mince</i>	8350	"	" 1800, polished	50.82



No. 8345.

## Without Safety Catch Holders.

<i>Rockaway</i>	20124	Capacity in Amperes up to 800, plain,	each	21.28
<i>Rocker</i>	20125	"	" 800, polished	25.57
<i>Mined</i>	8351	"	" 1200, plain	27.99
<i>Mind</i>	8353	"	" 1200, polished	33.60
<i>Minded</i>	8354	"	" 1800, plain	39.16
<i>Mindfully</i>	8356	"	" 1800, polished	47.02

## Double and Triple Pole Blade Switches.

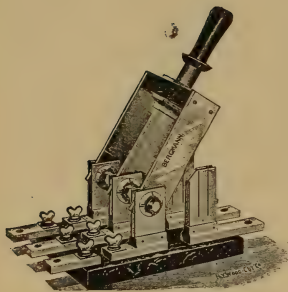
## WITH SAFETY CATCH HOLDERS.

## Double Pole.

<i>Miser</i>	8357	Capacity in Amperes, up to 25, plain,	each	2.75
<i>Mingle</i>	8359	"	" 25, polished	3.30
<i>Mining</i>	8360	"	" 50, plain	6.60
<i>Minister</i>	8362	"	" 50, polished	7.95
<i>Mink</i>	8363	"	" 100, plain	9.90
<i>Minstrel</i>	8365	"	" 100, polished	11.90
<i>Rockery</i>	20126	"	" 200, plain	12.00
<i>Rocket</i>	20127	"	" 200, polished	15.50
<i>Mintage</i>	8366	"	" 300, plain	15.00
<i>Mious</i>	8368	"	" 300, polished	18.00
<i>Minute</i>	8369	"	" 400, plain	17.05
<i>Minuteness</i>	8371	"	" 400, polished	20.45
<i>Miracle</i>	8372	"	" 600, plain	23.10
<i>Mirness</i>	8374	"	" 600, polished	27.70

## Triple Pole.

<i>Mirror</i>	8375	Capacity in Amperes up to 25, plain	each	3.85
<i>Mirth</i>	8377	"	" 25, polished	4.65
<i>Mirthful</i>	8378	"	" 50, plain	8.80
<i>Misapply</i>	8380	"	" 50, polished	10.60
<i>Misbehave</i>	8381	"	" 100, plain	14.85
<i>Mischance</i>	8383	"	" 100, polished	17.85
<i>Rockfish</i>	20128	"	" 200, plain	18.70
<i>Rockgout</i>	20129	"	" 200, polished	22.45
<i>Mischief</i>	8384	"	" 300, plain	22.00
<i>Miser</i>	8386	"	" 300, polished	26.40
<i>Miscry</i>	8387	"	" 400, plain	25.30
<i>Misfortune</i>	8390	"	" 400, polished	30.35
<i>Misgive</i>	8391	"	" 600, plain	34.65
<i>Misguide</i>	8393	"	" 600, polished	41.60



Nos. 8357 and 8375.



## Double and Triple Pole Blade Switches.

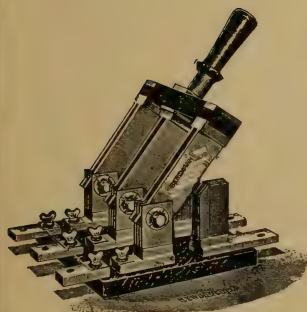
WITHOUT SAFETY CATCH HOLDERS.

### Double Pole.

Code Word.	List No		List Price.
<i>Misguided</i>	8394	Capacity in Amperes, up to 25, plain, each	2.50
<i>Mishap</i>	8396	" " " 25, polished "	3.00
<i>Misjoin</i>	8397	" " " 50, plain "	6.10
<i>Misjudged</i>	8399	" " " 50, polished "	7.30
<i>Misjudging</i>	8400	" " " 100, plain "	9.15
<i>Mislead</i>	8402	" " " 100, polished "	11.00
<i>Rockless</i>	20130	" " " 200, plain "	11.95
<i>Rockling</i>	20131	" " " 200, polished "	14.35
<i>Misleader</i>	8403	" " " 300, plain "	13.90
<i>Misplace</i>	8405	" " " 300, polished "	16.65
<i>Misrule</i>	8406	" " " 400, plain "	15.80
<i>Mising</i>	8408	" " " 400, polished "	18.95
<i>Mission</i>	8409	" " " 600, plain "	21.40
<i>Mist</i>	8411	" " " 600, polished "	25.70

### Triple Pole.

<i>Mistake</i>	8412	Capacity in Amperes up to 25, plain, each	3.50
<i>Mistletoe</i>	8414	" " " 25, polished "	4.20
<i>Mistreat</i>	8415	" " " 50, plain "	8.10
<i>Mistrust</i>	8417	" " " 50, polished "	9.75
<i>Mistuse</i>	8418	" " " 100, plain "	13.75
<i>Miter</i>	8420	" " " 100, polished "	16.50
<i>Rockmilk</i>	20132	" " " 200, plain "	17.30
<i>Rockmoss</i>	20133	" " " 200, polished "	20.75
<i>Mitigate</i>	8421	" " " 300, plain "	20.35
<i>Mittimus</i>	8423	" " " 300, polished "	24.45
<i>Mix</i>	8424	" " " 400, plain "	23.40
<i>Mixture</i>	8426	" " " 400, polished "	28.10
<i>Moun</i>	8427	" " " 600, plain "	31.90
<i>Monning</i>	8429	" " " 600, polished "	38.30



Nos. 8430 and 8436.

## Double and Triple Pole.

WITH SAFETY CATCH HOLDERS.

<i>Rockoil</i>	20134	Capacity in Amperes up to 800, plain, each	38.72
<i>Rockrose</i>	20135	" " " 800, polished "	46.47
<i>Mount</i>	8430	" " " 1200, plain "	60.50
<i>Mobbed</i>	8432	" " " 1200, polished "	72.60
<i>Mobbing</i>	8433	" " " 1800, plain "	72.60
<i>Morocasin</i>	8435	" " " 1800, polished "	87.12

## Double and Triple Pole—(Continued).

## Triple Pole.

Code Word	List No	List Price
<i>Rockplant</i>	<b>20136</b>	Capacity in Amperes up to 800, plain, each... <b>59.29</b>
<i>Rockruby</i>	<b>20137</b>	" " " 800, polished " ... <b>71.17</b>
<i>Mock</i>	<b>8436</b>	" " " 1200, plain " ... <b>96.80</b>
<i>Mocked</i>	<b>8438</b>	" " " 1200, polished " ... <b>116.16</b>
<i>Mocking</i>	<b>8439</b>	" " " 1800, plain " ... <b>108.90</b>
<i>Modeled</i>	<b>8441</b>	" " " 1800, polished " ... <b>130.68</b>

## WITHOUT SAFETY CATCH HOLDERS.

<i>Rocksalt</i>	<b>20138</b>	Capacity in Amperes up to 800, plain each... <b>\$35.70</b>
<i>Rockshaft</i>	<b>20139</b>	" " " 800, polished " ... <b>42.95</b>
<i>Modeling</i>	<b>8442</b>	" " " 1200, plain " ... <b>55.99</b>
<i>Mordant</i>	<b>8444</b>	" " " 1200, polished " ... <b>67.21</b>
<i>Morning</i>	<b>8445</b>	" " " 1800, plain " ... <b>67.15</b>
<i>Morphology</i>	<b>8447</b>	" " " 1800, polished " ... <b>80.57</b>

## Triple Pole.

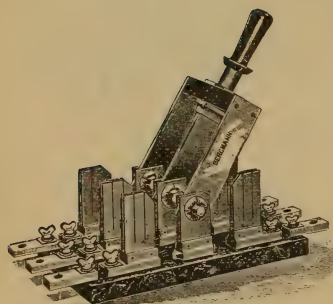
<i>Rockshell</i>	<b>20140</b>	Capacity in Amperes, up to 800, plain, each .. <b>54.83</b>
<i>Rocksoap</i>	<b>20141</b>	" " " 800, polished " ... <b>65.78</b>
<i>Morsel</i>	<b>8448</b>	" " " 1200, plain " ... <b>89.54</b>
<i>Mortality</i>	<b>8450</b>	" " " 1200, polished " ... <b>107.47</b>
<i>Mortar</i>	<b>8451</b>	" " " 1800, plain " ... <b>100.76</b>
<i>Mortgage</i>	<b>8453</b>	" " " 1800, polished " ... <b>120.89</b>

## Double Throw—Single, Double and Triple Pole.

## WITH SAFETY CATCH HOLDERS.

## Single Pole.

<i>Mortify</i>	<b>8454</b>	Capacity in Amperes up to 25, plain each... <b>2.95</b>
<i>Mortise</i>	<b>8456</b>	" " " 25, polished " ... <b>3.55</b>
<i>Mosaic</i>	<b>8457</b>	" " " 50, plain " ... <b>8.80</b>
<i>Moslem</i>	<b>8459</b>	" " " 50, polished " ... <b>10.60</b>
<i>Mossy</i>	<b>8460</b>	" " " 100, plain " ... <b>10.80</b>
<i>Motherly</i>	<b>8462</b>	" " " 100, polished " ... <b>13.00</b>
<i>Rocktar</i>	<b>20142</b>	" " " 200, plain " ... <b>14.70</b>
<i>Rockwood</i>	<b>20143</b>	" " " 200, polished " ... <b>17.60</b>
<i>Motion</i>	<b>8463</b>	" " " 300, plain " ... <b>16.15</b>
<i>Motley</i>	<b>8465</b>	" " " 300, polished " ... <b>19.40</b>
<i>Mottled</i>	<b>8466</b>	" " " 400, plain " ... <b>17.60</b>
<i>Mound</i>	<b>8468</b>	" " " 400, polished " ... <b>21.15</b>
<i>Mound</i>	<b>8469</b>	" " " 600, plain " ... <b>25.40</b>
<i>Mounting</i>	<b>8471</b>	" " " 600, polished " ... <b>30.50</b>



Nos. 8454, 8472 and 8490.

## Double Throw—Single, Double and Triple Pole

—(Continued)

## Double Pole.

Code Word	List No	Capacity in Amperes, up to 25, plain, each	List Price.
<i>Mourn</i>	8472	" " " 25, polished "	4.95
<i>Mournful</i>	8474	" " " 50, plain "	5.95
<i>Mournfully</i>	8475	" " " 50, polished "	11.75
<i>Mouse</i>	8477	" " " 100, plain "	14.10
<i>Mouth</i>	8478	" " " 100, polished "	17.60
<i>Movable</i>	8480	" " " 200, plain "	21.15
<i>Rockwork</i>	20144	" " " 200, polished "	22.95
<i>Rocky</i>	20145	" " " 300, plain "	27.55
<i>Movement</i>	8481	" " " 300, polished "	26.70
<i>Mortgaging</i>	8483	" " " 400, plain "	32.00
<i>Modern</i>	8484	" " " 400, polished "	30.35
<i>Modest</i>	8486	" " " 600, plain "	36.40
<i>Modestly</i>	8487	" " " 600, polished "	41.10
<i>Lump</i>	8489	" " " 600, polished "	49.30

## Triple Pole.

Code Word	List No	Capacity in Amperes up to 25, plain, each	List Price.
<i>Modify</i>	8490	" " " 25, polished "	6.90
<i>Module</i>	8492	" " " 50, plain "	8.30
<i>Moist</i>	8493	" " " 50, polished "	15.70
<i>Moistening</i>	8495	" " " 100, plain "	18.80
<i>Moisture</i>	8496	" " " 100, polished "	26.40
<i>Moldiness</i>	8498	" " " 200, plain "	31.70
<i>Rocou</i>	20146	" " " 200, polished "	33.30
<i>Rode</i>	20147	" " " 300, plain "	39.95
<i>Molest</i>	8499	" " " 300, polished "	39.15
<i>Molify</i>	8501	" " " 400, plain "	47.00
<i>Molt</i>	8502	" " " 400, polished "	45.00
<i>Molten</i>	8504	" " " 600, plain "	54.00
<i>Moment</i>	8505	" " " 600, polished "	61.60
<i>Momentus</i>	8507	" " " 600, polished "	73.95

WITHOUT SAFETY CATCH HOLDERS.

## Single Pole.

Code Word	List No	Capacity in Amperes up to 25, plain, each	List Price.
<i>Monad</i>	8508	" " " 25, polished "	\$2.70
<i>Monarchial</i>	8510	" " " 50, plain "	3.20
<i>Monarchy</i>	8511	" " " 50, polished "	7.75
<i>Monastic</i>	8513	" " " 100, plain "	9.30
<i>Mongrel</i>	8414	" " " 100, polished "	9.60
<i>Monkey</i>	8516	" " " 100, polished "	11.55

## Double Throw—Single, Double and Triple Pole —(Continued).

### Single Pole.—(Continued.)

Code Word.	List No.		List Price.
<i>Rodent</i>	20148	Capacity in Amperes up to 200, plain each	\$13.10
<i>Rodge</i>	20149	" " " 200, polished "	15.75
<i>Monkish</i>	8517	" " " 300, plain "	14.35
<i>Monopoly</i>	8519	" " " 300, polished "	17.30
<i>Monotony</i>	8520	" " " 400, plain "	15.60
<i>Monthly</i>	8522	" " " 400, polished "	18.75
<i>Monument</i>	8523	" " " 600, plain "	22.60
<i>Moose</i>	8525	" " " 600, polished "	27.15

### Double Pole.

<i>Macaroni</i>	8526	Capacity in Amperes, up to 25, plain, each	4.50
<i>Mace</i>	8528	" " " 25, polished "	5.40
<i>Macarute</i>	8529	" " " 50, plain "	10.40
<i>Machinery</i>	8531	" " " 50, polished "	12.50
<i>Machinist</i>	8532	" " " 100, plain "	15.60
<i>Madam</i>	8534	" " " 100, polished "	18.75
<i>Rodmel</i>	20150	" " " 200, plain "	20.40
<i>Roestone</i>	20151	" " " 200, polished "	24.55
<i>Madcap</i>	8535	" " " 300, plain "	23.75
<i>Madman</i>	8537	" " " 300, polished "	28.50
<i>Madness</i>	8538	" " " 400, plain "	27.00
<i>Magazine</i>	8540	" " " 400, polished "	32.40
<i>Maggot</i>	8541	" " " 600, plain "	36.55
<i>Magie</i>	8543	" " " 600, polished "	43.90

### Triple Pole.

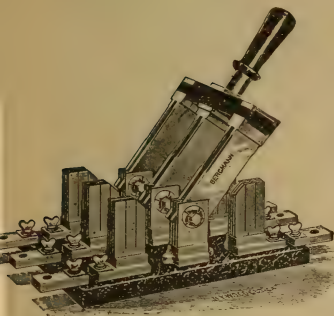
<i>Magical</i>	8544	Capacity in Amperes up to 25, plain, each	6.30
<i>Magistrate</i>	8546	" " " 25, polished "	7.55
<i>Magney</i>	8547	" " " 50, plain "	13.80
<i>Magnifying</i>	8549	" " " 50, polished "	16.60
<i>Magnitude</i>	8550	" " " 100, plain "	23.50
<i>Magpie</i>	8552	" " " 100, polished "	28.20
<i>Rogue</i>	20152	" " " 200, plain "	29.55
<i>Rodgeship</i>	20153	" " " 200, polished "	35.50
<i>Mahometan</i>	8553	" " " 300, plain "	34.75
<i>Maiden</i>	8555	" " " 300, polished "	41.75
<i>Maidenly</i>	8556	" " " 400, plain "	39.95
<i>Maimed</i>	8558	" " " 400, polished "	47.95
<i>Maiming</i>	8559	" " " 600, plain "	54.30
<i>Mainmail</i>	8561	" " " 600, polished "	65.15



## Double Throw—Single, Double and Triple Pole

### (Continued).

WITH SAFETY CATCH HOLDERS.



Nos. 8562, 8568 and 8574.

#### Single Pole.

Code Word.	List No.	Capacity in Amperes up to 800, plain, each	List Price.
<i>Royal</i>	20154	800, polished	40.86
<i>Royal</i>	20155	1200, plain	49.06
<i>Maintain</i>	8562	1200, polished	53.79
<i>Maize</i>	8564	1800, plain	64.57
<i>Majestic</i>	8565	1800, polished	75.35
<i>Major</i>	8567	1800, polished	90.42

#### Double Pole.

<i>Roist</i>	20156	Capacity in Amperes up to 800, plain, each	68.86
<i>Roke</i>	20157	800, polished	82.66
<i>Majority</i>	8568	1200, plain	107.58
<i>Malapert</i>	8570	1200, polished	129.14
<i>Malaria</i>	8571	1800, plain	129.08
<i>Makecontent</i>	8573	1800, polished	155.60

#### Triple Pole.

<i>Rokeage</i>	20158	Capacity in Amperes up to 800, plain, each	105.38
<i>Role</i>	20159	800, polished	126.50
<i>Mope</i>	8574	1200, plain	172.15
<i>Moping</i>	8576	1200, polished	206.58
<i>Moral</i>	8577	1800, plain	193.60
<i>Morality</i>	8579	1800, polished	232.32

WITHOUT SAFETY CATCH HOLDERS.

#### Single Pole.

<i>Rollcall</i>	20160	Capacity in Amperes up to 800, plain, each	36.30
<i>Roller</i>	20161	800, polished	43.56
<i>Moralize</i>	8580	1200, plain	47.47
<i>Morass</i>	8582	1200, polished	57.31
<i>Morbid</i>	8583	1800, plain	66.82
<i>Morbidness</i>	8585	1800, polished	80.19

#### Double Pole.

<i>Rollerbolt</i>	20162	Capacity in Amperes up to 800, plain, each	61.90
<i>Rollermill</i>	20163	800, polished	73.34
<i>Morose</i>	8586	1200, plain	95.64
<i>Malicious</i>	8588	1200, polished	114.78
<i>Maline</i>	8589	1800, plain	114.56
<i>Malignity</i>	8591	1800, polished	137.22

#### Triple Pole.

<i>Rollingpin</i>	20164	Capacity in Amperes up to 800, plain, each	93.50
<i>Rollingpress</i>	20165	800, polished	112.20
<i>Malard</i>	8592	1200, plain	152.79
<i>Mulling</i>	8594	1200, polished	189.20
<i>Malt</i>	8595	1800, plain	171.93
<i>Mammalia</i>	8597	1800, polished	206.30

## Double Throw—Single, Double and Triple Pole (Continued).

### Separate Lugs for Blade Switches.

Code Word.	List No.	Capacity in Amperes up to	List Price.
<i>Manamon</i>	8598	25, plain each	18
<i>Manamoth</i>	8599	" " " 25, polished "	20
<i>Manacle</i>	8600	" " " 50, plain "	24
<i>Manacled</i>	8601	" " " 50, polished "	28
<i>Romage</i>	20166	" " " 100, plain "	48
<i>Romaa</i>	20167	" " " 100, polished "	56
<i>Manaceling</i>	8602	" " " 150, plain "	48
<i>Manage</i>	8603	" " " 150, polished "	56
<i>Romance</i>	20168	" " " 200, plain "	74
<i>Romant</i>	20169	" " " 200, polished "	82
<i>Management</i>	8604	" " " 300, plain "	98
<i>Manager</i>	8605	" " " 300, polished "	1.08
<i>Managing</i>	8606	" " " 400, plain "	98
<i>Manakin</i>	8607	" " " 400, polished "	1.08
<i>Mandamus</i>	8608	" " " 600, plain "	1.22
<i>Mandarin</i>	8609	" " " 600, polished "	1.34
<i>Romeine</i>	20170	" " " 800, plain "	1.62
<i>Romekin</i>	20171	" " " 800, polished "	1.78
<i>Mandate</i>	8610	" " " 1200, plain "	3.66
<i>Mandatory</i>	8611	" " " 1200, polished "	4.06
<i>Mandrake</i>	8612	" " " 1800, plain "	5.56
<i>Mandrel</i>	8613	" " " 1800, polished "	6.12



No. 20199. Open.



No. 20199. Closed.

## Bryant High Tension Service Switch and Fuse Box Combined.

Designed for 500 Volt Motor Service Switch. Made of iron, slate lined, slate thoroughly baked in oil. It is double pole, double break. The distance between the terminals is five (5) inches. The positive and negative sides are separated by slate.

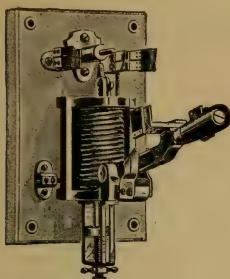
When opened the fuse terminals have no connections whatever with the live wires, and are therefore safe and convenient to fuse.

When the box is closed no live parts can be touched either intentionally or by accident. It is moisture and weather proof.

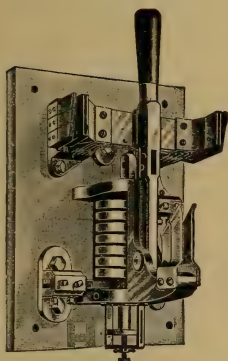
The box is also adapted to work on primary alternating circuits 1000 volts. It combines both the features of a cut-out and knife switch.

Code Word	List No.	List Price
<i>Rooster</i>	20199	High Tension Service Switch, 100 Amperes, 500 Volts, each
		8.00

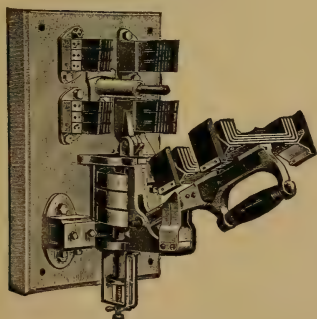
Larger sizes made to order.



Open. Small Size.



Closed. Large Size.



800 Ampere Single.

### I-T-E Automatic Magnetic Circuit Breaker.

Single Pole and Double Pole, Direct or Alternating Current, Standard Switchboard Type, Back Connections.

### Size of Base.

From 5 Amperes to 60 Amperes, Single Pole.....	7 x 11 x 1 1/2 inches.
" 80 " 600 " "	10 x 14 x 1 1/2 "
" 800 " 1000 " "	11 x 17 x 1 1/2 "
" 5 " 60 " Double Pole.....	7 x 13 x 1 1/2 "
" 80 " 600 " "	10 x 17 x 1 1/2 "

The Double Pole Circuit Breakers between 80 Amperes and 600 Amperes are identical in construction with the 800 Ampere Single Pole.

**Finish, Price-List, Rating and Adjustment.**

The I-T-E Standard Switchboard Circuit Breakers are furnished in the following finishes:

No. 1. Standard. Mounted on black enamel, slate or marble base, as desired. Jacket finished in polished nickel; current-carrying parts natural copper finish, highly polished and lacquered; non-electrical parts nickel-plated.

No. 3. Rough Type. Mounted on plain slate base. Jacket copper-plated; current-carrying and non-electrical parts dipped finish; all movable iron parts copper-plated; all bearing pins phosphor bronze.

Should the Circuit Breaker be desired for switchboard work on template, so state and give thickness of switchboard.

Double Pole Circuit Breakers of this type should not be used on circuits of over 250 volts.

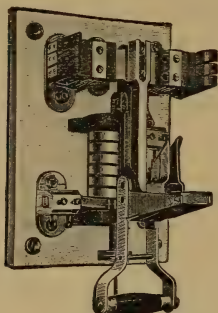
Price of No. 3 finish is 10 per cent. less than list of No. 1 finish.

### Direct Current.

CODE.	Actual Rating Amperes.	ADJUSTMENT AMPERES.			NO. 1 FINISH.	
		Steps.	Lowest.	Highest.	Single Pole.	Double Pole
OI	2000					
PI	1500					
AI	1000					
QI	800	150	800	1600	\$98.00	\$146.25
UI	1000	100	700	1400	98.00	146.25
BI	500	100	500	1000	69.00	103.00
VI	400	70	400	800	60.00	98.00
CI	300	60	350	700	63.00	94.00
DI	200	50	225	525	57.00	85.00
GI	100	25	150	350	45.00	67.00
HI	80	25	75	175	39.00	58.00
WI	80	20	60	150	39.00	58.00
HI	60	20	45	125	33.00	49.00
XI	45	15	35	95		
KI	30	15	25	75		
YI	20	5	15	40	30.00	45.00
MI	10	4	8	24		
NI	5	2	4	12		

### Alternating Current.

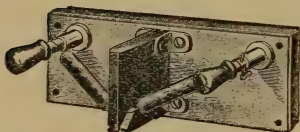
CODE.	Actual Rating Amperes.	ADJUSTMENT AMPERES.			NO. 1 FINISH.	
		Steps.	Lowest.	Highest.	Single Pole.	Double Pole
QAI	2000					
PAI	1500					
AAI	1000	150	800	1600	\$122.50	\$183.00
QAI	800	100	700	1400	122.50	183.00
UAI	600	100	500	1000	86.25	128.75
BAI	500	400	400	800	82.50	122.50
CAI	400	700	350	700	71.75	117.50
CAI	300	60	225	525	71.25	106.25
DAI	200	50	110	350	56.25	83.75
GAI	100	25	75	175	48.75	72.50
WAI	80	20	60	150	48.75	72.50
HAI	60	20	45	125	41.25	61.25
XAI	45	15	35	95	37.50	56.25
KAI	30	5	25	75	37.50	56.25
YAI	20	5	13	40	37.50	
MAI	10	4	8	24	37.50	
	5	2	4	12		



Circuit Breaker with Swinging Arm Handle.



Throwing-in Arm.



Complete Shunt Block. Fuse in Position.



Extra Plugs and Fuse for Shunt Block.



Protected Terminal Fuse.

## I-T-E Automatic Magnetic Circuit Breakers —(Continued).

This cut represents Circuit Breaker with Swinging Arm Handle to permit of its location at top of Switchboard or under hood of street railway car.

### Throwing-In Arm.

Throwing-In Arm for use on 800 Ampere Single Pole and larger, and 300 Ampere Double Pole and larger.

This arm is included in price for above size Circuit Breakers.

## I-T-E Shunt Block with Protected Terminal Fuse.

For high voltage work, where an extra precaution is desired to protect the contacts of circuit breaker, it is advisable to use the protected terminal fuse and shunt block. By means of this device the arc is transferred from the contacts of circuit breaker to a favorably located fuse of such construction that the terminals of fuse block are protected and arcing cannot be maintained.

These fuses are much less in carrying capacity than the minimum adjustment of the circuit breaker, hence they afford an absolute protection.

### Shunt Blocks.

Style A 2, 600-80 Amperes, each..... \$6.00  
Style A 3, 80-5 " " ..... 6.00

Price includes an extra set of plugs.

### Protected Terminal Fuses.

#### SWITCHBOARD TYPE.

For 2,000-1,000 Amperes, per 100..... 6.00  
For 800- " " ..... 4.50

#### SIZE OF STANDARD CIRCUIT BREAKERS.

Code.	Capacity Amperes. Actual.	SIZE OF FUSE TO PROTECT STANDARD CIRCUIT BREAKERS.		
		Type Shunt Block.	Primary Fuse	Metal.
OI	2000	A-1	No. 10 B. & S.	Copper.
PI	1500	A-1	10 "	"
AI	1000	A-1	12 "	"
QI	800	A-1	12 "	"
UI	600	A-2	14 "	"
BI	500	A-2	16 "	"
VI	400	A-2	18 "	"
DI	300	A-2	18 "	"
CI	200	A-2	18 "	"
GI	100	A-2	18 "	"
WI	80	A-2	20 "	"
HI	60	A-3	22 "	"
XI	45	A-3	24 "	"
KI	30	A-3	15 Amp.	Lead and Tin.
YI	20	A-3	10 "	"
MI	10	A-3	5 "	"
NI	5	A-3	3 "	"

We also make a form of shunt fuse block designed to have the fuse "blow" back of the switchboard, but controlled from the front.



## I-T-E Mercury Contact Circuit Breakers

For Direct and Alternating Current both in Single and Double Pole.

SPECIALLY DESIGNED FOR CURRENTS OF HIGH VOLTAGE.

The contacts and mercury-containing cups are made of aluminum, a metal with which mercury will not amalgamate.

This form of Circuit Breaker is intended to be used for service wires entering buildings and also for all mains carrying currents in excess of 10 amperes. There are but two forces employed in this device, namely, gravity and magnetism.

### Size of Base.

5 Amperes to 60 Amperes, Single and Double Pole, 6 x 7 x  $\frac{3}{8}$  inches.



Double Pole Mercury Contact.

CODE.	Actual Rating Amperes.	ADJUSTMENT AMPERES.			PRICE.	
		Steps.	Lowest.	Highest.	Single Pole.	Double Pole.
Hg NI	5	2	4	12	\$12.00	\$16.50
Hg MI	10	4	8	24		
Hg YI	20	5	15	40		
Hg KI	30	15	25	75		
Hg XI	45	15	35	90	16.50	22.50
Hg HI	60	20	45	125		
Hg WI	80	25	65	175		
Hg GI	100	30	75	200		
					30.00	36.00

The jackets and all other non-current carrying parts are nickel-plated. The current-carrying parts are polished aluminum.

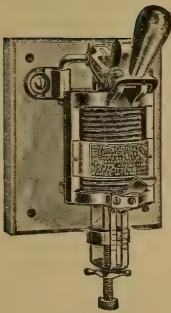
## I-T-E Mercury Contact Circuit Breakers

For Underload and Overload.

Specially designed for use in connection with Motors, to open a circuit in case of an overload; also, to open the circuit in case of an underload or a break between motor and service supply. This special device protects motor and building against overloads and fires resulting therefrom. It also protects the generator and cables against sudden overloads. The underload feature protects motor and building in case the current is momentarily cut off at the generator end.

### Size of Base.

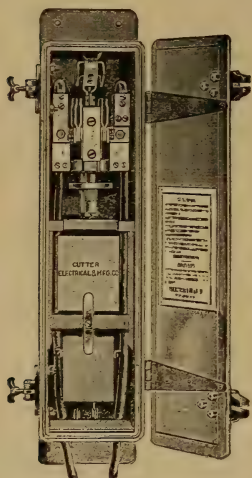
5 Amperes to 60 Amperes, Single Pole and Double Pole, 6 x 7 x  $\frac{3}{8}$  inches.



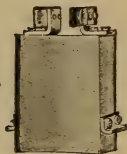
Underload and Overload.

CODE.	Actual Rating Amperes.	OVERLOAD ADJUSTMENT AMPERES.			Underload Adjustment Amperes.	PRICE.	
		Steps.	Lowest.	Highest.		Single Pole.	Double Pole.
Hg N2I	5	1	5	10	1	\$16.50	\$22.50
Hg F2I	7½	1½	8	16	1½		
Hg M2I	10	2	10	20	2		
Hg L2I	15	3	15	30	3		
Hg Y2I	20	4	20	40	4	22.50	30.00
Hg T2I	25	5	25	50	5		
Hg K2I	30	6	30	60	6		
Hg X2I	45	9	45	90	9		
Hg H2I	60	12	60	120	12	30.00	40.00
Hg W2I	80	16	80	160	16	40.00	50.00
Hg G2I	100	20	100	200	20	50.00	

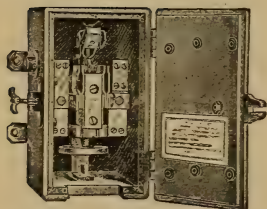
The Mercury Circuit Breakers are positive in action, and are guaranteed to operate at all times within five per cent. of adjustment. They are non-arcing, having a long, clean break of five inches, and can be instantly, and without special effort, re-set. These Circuit Breakers cannot be re-set if the same excess of current or trouble still exists on the wires that caused it to open.



Platform Type, to use on Dashboard.



Fuse Block.



Sill Type, to use on Platform Sill.

## I-T-E Automatic Magnetic Car Circuit Breaker.

The severe conditions under which street railway equipments operate demand some other protection than that afforded by fuses.

Briefly, the following troubles in Electric Railway Service are remedied by the use of the "I-T-E" Magnetic Circuit Breaker.

Careless treatment and abuse of equipment by incompetent or reckless motormen.

Interference of travel, due to power-station Circuit Breakers opening on the failure of some individual car. The continuance of the arcing, present after a "ground" or "short circuit" occurs, in the motor equipment, owing to the sluggishness of the heavy fuses to "blow;" results in the destruction of surrounding material and insulation.

Development of new flaws and faults in the apparatus, during a "short circuit" or "ground," owing to the abnormal carrying capacity of fuses employed.

The circuit is opened in less and less time as the circuit protected approaches nearer and nearer a "short circuit." Positively no burning or blistering of contacts when circuit breaker opens.

Means of keeping a record of each time circuit breaker is opened.

The device is simple and inexpensive to maintain.

Adjustment independent of friction, springs or other features liable to cause alteration.

TYPE.	RATING AMPERES.		ADJUSTMENT AMPERES.			LIST PRICE.	
	Actual.	Nominal	Steps.	Lowest.	Highest.	Sill.	Dashboard.
RI	60	80	25	100	175	\$18.00	\$19.50
SI	60	80	50	150	250	18.00	19.50

Prices quoted on larger sizes and on special forms on receipt of information giving requirements.

# "I-T-E" Circuit Breakers.—Continued.

## Special Instructions.

In ordering state style of finish by number—(whether No. 1 or No. 3);—character of base—(when ordering No. 1 finish). Also state whether circuit breakers ordered are desired for direct or alternating current. If to be shipped unmounted, state thickness of switchboard on which the circuit breaker will be used.

The "I-T-E" Circuit Breakers can be furnished on plain, polished or enameled slate or marble, as desired. Unless otherwise ordered slate bases will be furnished.

Special size and style bases will be furnished on receipt of definite information, for which special prices will be given on application.

We are prepared to furnish "I-T-E" Circuit Breakers to meet the varying requirements of storage battery work on receipt of definite information.

The "I-T-E" Circuit Breaker has frequently been used as an amperemeter for obtaining readings of sudden flows of current. When the Circuit Breaker is desired for such work, if advised, we will carefully calibrate the same for each adjustment throughout its range.

**ACTUAL RATING.**—The Cutter Electrical and Manufacturing Co. Standard. Heating of any part of Circuit Breaker not to exceed 20 deg. C. above surrounding atmosphere after a 10-hour consecutive flow of current, as tabulated in column under heading of actual rating.

**IMPORTANT NOTICE.**—While the range of the "I-T-E" Circuit Breaker is very great and allows of large jump of current, it must not be used for carrying continuously current in excess of its actual rating.

## Detail Section of "I-T-E" Circuit Breaker, Standard Switchboard Type.

- |                           |                                      |
|---------------------------|--------------------------------------|
| A Iron Jacket.            | H Striker Plate to throw switch out. |
| B Solinoidal Coil.        | I Spring Piston.                     |
| C Movable Plunger.        | J Spring Tube, head removable.       |
| D Fixed Plug.             | K Steel Striker Plate on Arm.        |
| E Striker Pin.            | L Buffer Springs.                    |
| F Catch of Striker Plate. | M Adjusting Screen.                  |
| G Catch of Switch Arm.    |                                      |

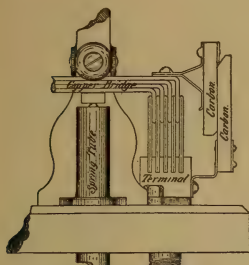
## Diagram of Connections of "I-T-E" Current Breakers.

Diagram No. 1.

Showing method of connecting "I-T-E" Circuit Breaker and protected Terminal Fuse Shunt Block.

Diagram No. 2.

Showing method of connecting Double Pole "I-T-E" Circuit Breakers.



Top View of Circuit Breaker.  
Showing Carbon Protection.

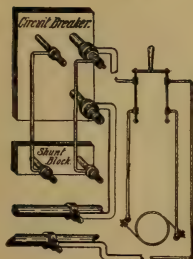
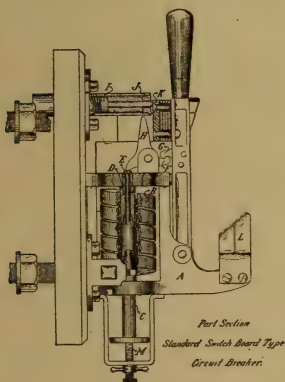


Diagram No. 1.

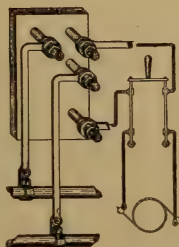


Diagram No. 2.

# CUT-OUTS.



STRAIGHT (LONG), No. 900.



QUADRANT, No. 901.



MIDGET, No. 902.



MIDGET, D. P., No. 903.



No. 18.

## Fixture Cut-outs.

Code Word.	List No.	List Price.
<i>Exalted</i>	900 Straight (Long), each.....	\$0.32

<i>Exalting</i>	901 Quadrant, each.....	.32
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<i>Examination</i>	902 Midget, each.....	.15
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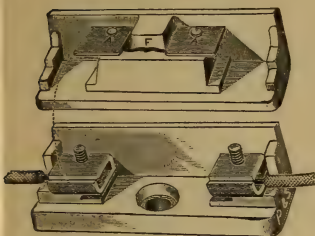
<i>Examine</i>	903 Midget, double pole, each.....	.25
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This is a Fixture Cut-out with a cover which can be removed to renew fuse. It is small enough for smallest canopy.

<i>Examining</i>	18 Covered Bug Cut-out, each.....	.12
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Fixture Cut-outs—(Continued).



No. 19. OPEN.

This is similar to No. 18, but is made straight instead of curved, and can be used wherever a single pole Cut-out is desirable, or where wires are run over moldings or cornices

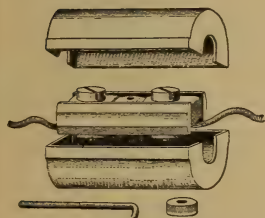
Code Word.	List No.	List Price.
<i>Examined</i>	19 Covered Bug Cut-out, each	\$0.12

Use No. 18 for fixtures using 5 amperes and under. For larger fixtures use No. 19.



No. 61119

<i>Exactness</i>	61119 Single Pole Electrolier Cut-out, 6 light. each.	.30
<i>Exactor</i>	61116 " " " " 3 " Hard Rubber Base, 1½ inch long, each.	.15



No. 2395.

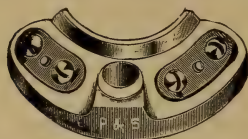
<i>Exaggerate</i>	2394 Newton Bug Cut-out only, each.	.10
<i>Exaltation</i>	2395 " " " complete, with cover, each	.20



No. 946

Medium Horseshoe Cut-out.

<i>Euphony</i>	946 Each.	.15
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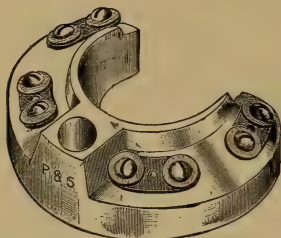


No. 54.

**Medium Horseshoe Cut-out—(Continued).**

Code Word.	List No.	List Price.
<i>Europe</i>	54 Bracket Cut-out, . . . . .	\$0.06

This is a very small double pole Horseshoe Fixture Cut-out, measuring only  $2\frac{1}{4}$  inches at its greatest diameter.



No. 74.

<i>European</i>	74 Horseshoe, each. . . . .	.10
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No. 930.

**Fixture Cut-outs.**

<i>Chronograph</i>	930 Horseshoe, each. . . . .	.20
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No. 931

<i>Chronicle</i>	931 Horseshoe, each. . . . .	.20
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No. 933.

<i>Estranged</i>	933 Horseshoe, per pair. . . . .	.18
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Fixture Cut-outs—(Continued).

Code Word.	List No.	List Price.
<i>Estrange</i>	932 Horseshoe, each.....	\$0.20



No. 932.

K. W. Ceiling Rosette.

PACKED IN INDIVIDUAL BOXES.

<i>Caliph</i>	870 Cleat, each .....	.20
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CLEAT, No. 870.

<i>Call</i>	926 Square Moulding, each.....	.20
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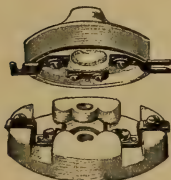
SQUARE BASE MOULDING, No. 926.

<i>Calling</i>	871 Concealed, each.....	.20
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CONCEALED, No. 871.

<i>Callous</i>	872 Combination, each.....	.20
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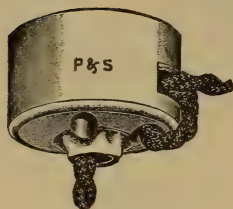
COMBINATION, No. 872.



No. 950.

**K. W. Cleat Rosette—Improved Side Pieces.**

Code Word.	List No.	List Price.
<i>Chuckling</i>	950 Each .....	\$0.18



No. 170.

**Self-Tying Ceiling Button**

<i>Rosset</i>	170 Per 100 .....	2.75
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No. 2300.

**Dovetail Rosettes.**

<i>Caleb</i>	2300 No. 101, for Cleat Work, each.....	.35
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No. 2301.

<i>Calf</i>	2301 No. 102, for Concealed Work, each.....	.40
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No. 232.



No. 2303.



No. 6.



No. 80.

### Dovetail Rosettes—(Continued).

Code Word.	List No.	List Price.
<i>Calibre</i>	2302 No. 104, for Moulding Work, each.....	\$0.40

<i>Calico</i>	2303 No. 106, for Moulding Work, each.....	.40
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### Fuseless Rosette.

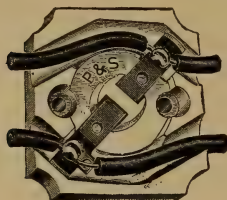
This Fuseless Rosette is useful in factories and places where it is difficult to replace fuse. Five or six can be used on a branch with small branch block. It is fitted with a substantial clamp for wire, which also has a screw and washer at inner end to fasten the lamp cord to.

<i>Ether</i>	6 Fuseless Rosette, each.....	.08
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### Combination Rosette.

Made in three styles, viz.: No. 80, for cleat and concealed; No. 81, for moulding or 3 wire and concealed; No. 82, full combination, for cleat, moulding, 3 wire and concealed. With No. 82 you can do any kind of wiring with the same Rosette, and it is only necessary to carry one kind in stock to be able to do any job.

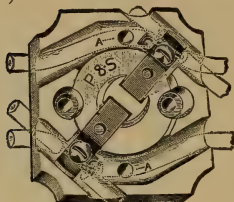
<i>Ethics</i>	80 For Cleat and Concealed, each.....	.14
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No. 81.

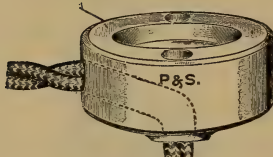
**Combination Rosette—(Continued).**

Code Word.	List No.	List Price.
<i>Etiquette</i>	81 For Moulding, Concealed and 3 wire, each.....	\$0.14



No. 82.

<i>Eugenie</i>	82 For Cleat, Moulding, Concealed and 3 wire, each.....	.14
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No. 70.

**"P. & S." High Insulation Ceiling Button.**

This Ceiling Button effectually keeps the wire away from the ceiling. It is small, being but  $1\frac{1}{4}$  inches in diameter.

<i>Eulogist</i>	70 Ceiling Button, per 100.....	2.50
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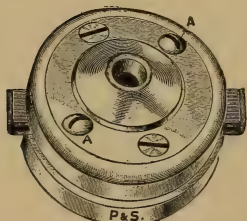


No. 20030.

**Bryant Rosette and Cleat Combined.**

The upper and lower parts are fastened together by the well-known K. W. Fastening.

<i>Renfre</i>	20030 Each .....	.12
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No. 40.—COVERED.

**"P. & S." Ceiling Rosette with Cap.**

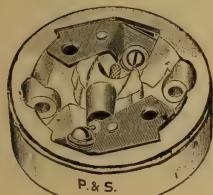
<i>Eustace</i>	40 Each.....	.12
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No. 869.

### Plain Rosette, No Fuse.

Code Word.	List No.	List Price.
<i>Callow</i>	869 Plain Rosette, each.....	\$0.15

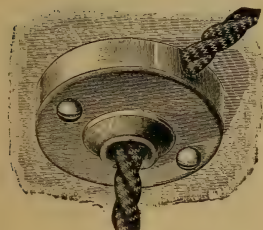


No. 39.—OPEN.

### "P. & S." Concealed Rosette.

This is an adaptation of No. 40 Ceiling Rosette to concealed work. To remove cap, loosen the round head screws AA one or two turns.

<i>Eca</i>	39 For Concealed Work, each.....	.12
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No. 1323.

### Porcelain Ceiling Button.

This Ceiling Button is used when it is desired to suspend the lamp at a distance from the rosette cut-out. No. 1323 is 1½ inches, and No. 1324 is 2½ inches diameter.

<i>Eternity</i>	1323 1½ inches in diameter, per 100.....	2.00
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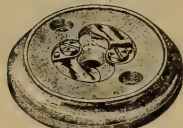
No. 1324.

<i>Eternity</i>	1324 2½ inches in diameter, per 100.....	3.50
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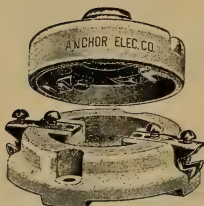
## Anchor Covered Chandelier Cut-Out.



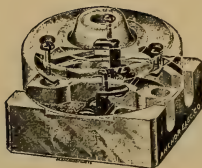
No. 20187.



No. 20188.



No. 20189.



No. 20191.

Code Word.	List No.	List Price Each.
<i>Roomful</i>	20186 Plain .....	\$0.06
<i>Roomily</i>	20187 Covered .....	.12

## Concealed Ceiling Cut-Out.

<i>Roominess</i>	20188 .....	.12 $\frac{3}{4}$
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## Cleat Ceiling Cut-Out.

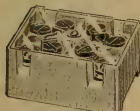
<i>Roomsome</i>	20189 Cleat Ceiling Cut-Out .....	.12 $\frac{3}{4}$
<i>Roomless</i>	20190 " " " with solid lug .....	.16

## Combination Cut-Out.

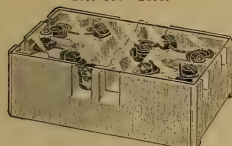
<i>Roomth</i>	20191 .....	.12 $\frac{3}{4}$
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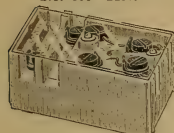
No. 891-1435.



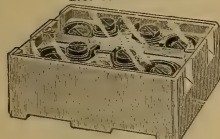
No. 892-1465.



No. 893-1487.



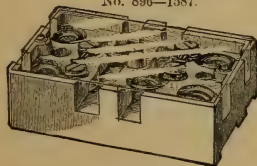
No. 894-2835.



No. 895-1565.



No. 896-1587.

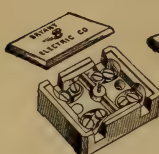


No. 897-1535.

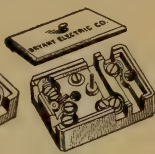
## Bryant-Edison Main and Branch Blocks with Mica Cover.

Code Word.	List No.	List Price.
<i>Evacuate</i>	891 No. 1435, Double Pole Branch, capacity 30 Amperes, each.....	\$0.90
<i>Evacuated</i>	892 No. 1465, Double Pole Main, capacity 30 Amperes, each .....	.77
<i>Evacuating</i>	893 No. 1487, Double Pole, Double Branch, capacity 30 Amperes, each.....	1.80
<i>Ecado</i>	894 No. 2835, Double Pole, Single Branch, capacity 30 Amperes, each.....	1.10
<i>Ecoded</i>	895 No. 1565, Double Pole, Main, capacity 75 Amperes, each.....	1.65
<i>Ecoding</i>	896 No. 1587, D. P. Double Branch, 75 Amperes, will take No. 00 B. & S. wire, each .....	6.25
<i>Road</i>	897 No. 1535, Double Pole, Double Branch, for wire up to No. 4 B. & S., capacity 75 Amperes, each.....	2.00





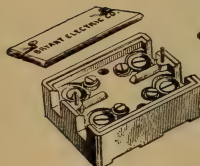
No. 20192.



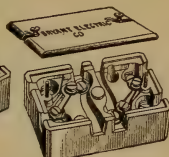
No. 20193.

**Bryant-Edison Fuse Blocks.****Main and Branch—Porcelain Covered.**

Code Word	List No.	List Price Each.
<i>Roony</i>	20192 1465—30 Ampere, S. P. Main Line Cut-Out.	.50
<i>Roon</i>	20193 2835—30 Ampere, D. P. Single Branch Cut-Out	.60



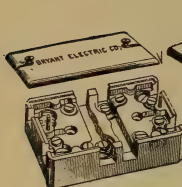
No. 20194



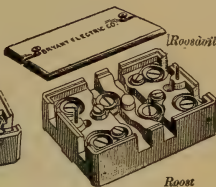
No. 20195

<i>Roop</i>	20194 1565—75 Ampere, D. P. Main Line Cut-Out . .	.85
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<i>Roorbach</i>	20195 1435—25 Ampere, D. P. Double Branch Cut-Out	.55
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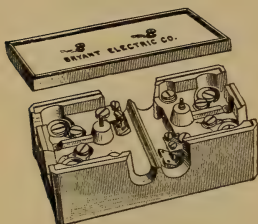
No. 20196.



No. 20197.

<i>Roorbach</i>	20196 1487—30 Ampere, D. P. Double Branch Cut-Out	.85
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<i>Roost</i>	20197 1535—75 Ampere D. P. Double Branch for Wire up to No. 4 B. & S. Gauge.	1.80
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No. 20198.

<i>Roorcock</i>	20198 1587—75 Ampere D. P. Double Branch for Wire up to No. 00 B. & S. Gauge	3.50
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## Edison Link Fuse Cut-outs on Porcelain Bases.

These Cut-outs have been designed for use on both the two and the three-wire systems, and are intended to protect circuits having a potential of not over 125 volts across one link.



No. 61569

Code Word.	List No.	List Price.
<i>Evangelic</i>	61569 Single Pole Main Line Cut-out, capacity 75 amperes, each .....	.75



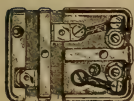
No. 61465.

<i>Essential</i>	61465 Double Pole Main Line Cut-out, capacity 80 amperes, each.....	.70
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No. 61565.

<i>Evaporating</i>	61565 Double Pole Main Line Cut-out, capacity 75 amperes, each.....	1.20
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No. 62835.

<i>Evaporated</i>	62835 Double Pole Single Branch Cut-out, capacity 30 amperes, each.....	1.00
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No. 61243.

<i>Evangelist</i>	61243 Double Pole Single Branch Cut-out for wire up to No. 0 B. W. G., capacity 75 amperes, each..	2.00
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No. 61245.

<i>Evaporate</i>	61245 Double Pole Single Branch Cut-out for wire up to No. 6 B. W. G., capacity 75 amperes, each..	1.50
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No. 61487.

<i>Evacuation</i>	61487 Double Pole Double Branch Cut-out, capacity 30 amperes, each.....	1.50
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No. 61587.

**Edison Link Fuse Cut-outs on Porcelain Bases**

—(Continued).

Code Word.	List No.	List Price.
<i>Espoused</i>	<b>61587</b>	Double Pole Double Branch Cut-out for wire up to No. 0 B. W. G., capacity 75 amperes, each.. <b>\$4.00</b>



No. 61535.

<i>Espy</i>	<b>61535</b>	Double Pole Double Branch Cut-out for wire up to No. 6 B. W. G., capacity 75 amperes, each.. <b>2.50</b>
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No. 61299.

<i>Espying</i>	<b>61299</b>	Three to Two-Wire Double Branch Cut-out, capacity 30 amperes, each..... <b>1.70</b>
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No. 61265.

<i>Esquire</i>	<b>61265</b>	Three-Wire Main Line Cut-out, capacity 30 amperes, each..... <b>.85</b>
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No. 61365.

<i>Essay</i>	<b>61365</b>	Three-Wire Main Line Cut-out, capacity 75 amperes, each..... <b>1.75</b>
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No. 62235.

<i>Essayed</i>	<b>62235</b>	Three-Wire Single Branch Cut-out, capacity 30 amperes, each..... <b>1.50</b>
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No. 61247.

# Edison Link Fuse Cut-Outs on Porcelain Bases.

(Continued).

Code Word	List No	List Price.
<i>Essaying</i>	61247	Three-Wire Single Branch Cut-out, capacity 75 Amperes, each..... \$2.50



No. 61235.

<i>Essence</i>	61235	Three-Wire Double Branch Cut-out, capacity 30 Amperes, each..... 2.25
<i>Roomage</i>	28230	D. P. Double Branch Porcelain Cover, 10 Amp..... .40



No. 62965.



No. 62569.

# Edison Plug Cut-Outs on Porcelain Bases.

These Cut-outs have been designed to protect circuits having a maximum current of 30 amperes, at a maximum potential of 125 volts.

MAXIMUM CAPACITY, 30 AMPERES.



No. 61935.



No. 62945.

<i>Escorted</i>	62569	Single Pole Main Line Cut-out, each..... .30
<i>Escorting</i>	62965	Double Pole Main Line Cut-out, each..... .50



No. 62387.

<i>Escrone</i>	61935	Double Pole Single Branch Cut-out, each..... .60
<i>Escutcheon</i>	62945	Double Pole Single or Double Cross-over Branch, each..... 1.30

<i>Esculent</i>	62587	Double Pole Double Branch Cut-out, each..... 1.10
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No. 68020.

<i>Roomer</i>	68020	D. P. Single or Double Cross-over..... .60
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No. 62199.

### Edison Plug Cut-outs on Porcelain Bases— (Continued).

Code Word.	List No.	List Price.
<i>Especial</i>	62199	Three to Two-Wire Double Branch, each.....\$1.25



No. 62165.

<i>Espousal</i>	62165	Three-Wire Main Line, each.....	.80
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No. 62135.

<i>Espousal</i>	62135	Three-Wire, Double Three-wire Branch, each..	1.50
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### Edison Fuse Plugs.

FOR USE WITH PLUG CUT-OUTS ON PORCELAIN BASES.



No. 66327



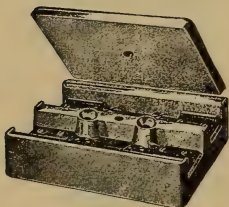
<i>Escalade</i>	66327	Fuse Plug, maximum capacity, 3 amperes, each,	.12
<i>Escapade</i>	66329	" " " 6 " "	.12
<i>Escape</i>	66331	" " " 10 " "	.12
<i>Escapement</i>	66333	" " " 12 " "	.12
<i>Escaping</i>	66335	" " " 15 " "	.12
<i>Escarp</i>	66337	" " " 20 " "	.12
<i>Eschero</i>	66339	" " " 25 " "	.12
<i>Escort</i>	66341	" " " 30 " "	.12



No. 884.

### Sawyer-Man Main Cut-outs.

<i>Established</i>	884	Capacity, 10 amperes, each.....	.45
<i>Estate</i>	885	" 25 " ".....	.60
<i>Esteem</i>	886	" 50 " ".....	.85
<i>Esteemed</i>	887	" 100 " ".....	1.35

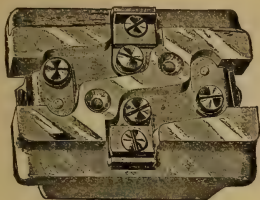


No. 938.

### Sawyer-Man Main Cut-outs, Covered.

<i>Esteeming</i>	938	10 Amperes, each.....	.40
<i>Esthetic</i>	939	25 " ".....	.65
<i>Esther</i>	940	50 " ".....	.80
<i>Estimable</i>	941	100 " ".....	1.00

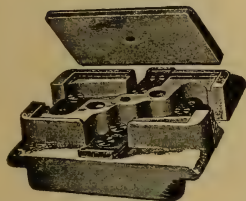




No. 888

**Sawyer-Man Branch Cut-outs.**

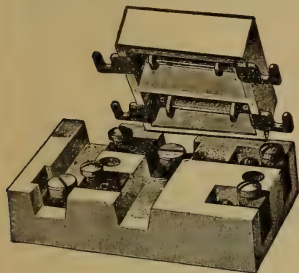
Code Word.	List No.	List Price.
<i>Estimate</i>	888 Capacity, 10 Amperes, each.....	\$.045
<i>Estimated</i>	889 " 25 " " .....	.60
<i>Estimating</i>	890 " 50 " " .....	1.00



No. 942.

**Sawyer-Man Branch Cut-outs, Covered.**

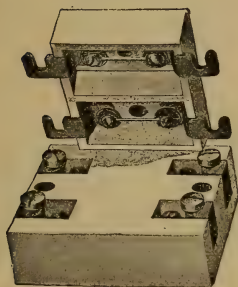
<i>Estimation</i>	942 10 Amperes, each.....	.80
<i>Estimate</i>	943 25 " " .....	1.30
<i>Estoppel</i>	944 50 " " .....	1.50



No. 881.

**K. W. Branch Cut-outs.**

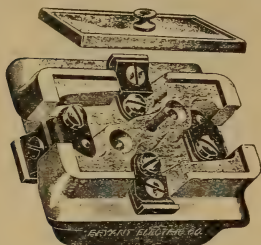
<i>Estray</i>	881 10 Amperes, each.....	.80
<i>Estreat</i>	882 30 " " .....	1.30
<i>Etch</i>	883 50 " " .....	1.50



No. 878.

**K. W. Main Line Cut-out.**

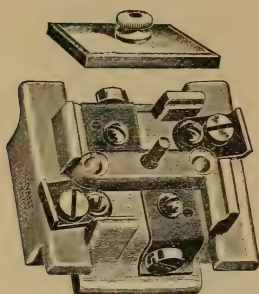
<i>Etched</i>	878 10 Amperes, each.....	.80
<i>Etching</i>	879 30 " " .....	1.20
<i>Eternal</i>	880 50 " " .....	1.30



No. 20172.

## Improved Form of S. M. Branch Cut-Out.

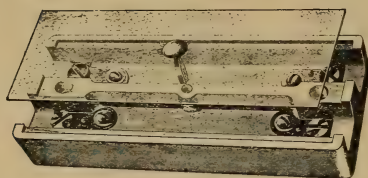
Code Word.	List No.	List Price
<i>Romist</i>	20172 25 Amperes, each.....	\$0.45
<i>Romp</i>	20173 50 " " .....	.70



No. 20174.

## Special Branch Blocks.

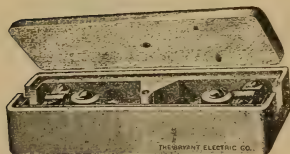
<i>Rondeau</i>	20174 10 Amperes, each.....	.40
<i>Rondel</i>	20175 25 " " .....	.65



No. 20176.

## 500 Volt D. P. Cut-Out.

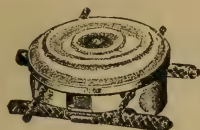
<i>Rondo</i>	20176 10 Amperes, each.....	.30
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No. 945.

## 500 Volt S. P. Cut-Out.

<i>Ronga</i>	20177 25 Amperes, each.....	.80
<i>Ront</i>	945 100 " " .....	1.50



No. 1326.

Code Word.	List No.	List Price.
<i>Everlasting</i>	1326 10 Amperes, with china cover, each.....	\$0.25
<i>Everaion</i>	1328 25 " " " " .....	.35
<i>Everict</i>	1330 50 " " " " .....	.55



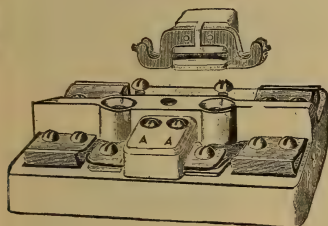
No. 1325.

<i>Evergreen</i>	1325 10 Amperes, without cover, each.....	.17
<i>Evermore</i>	1327 25 " " " " .....	.27
<i>Everry</i>	1329 50 " " " " .....	.47

### Sawyer-Man Main Block.

We furnish Sawyer-Man Main Blocks complete, with or without fuse plug. The fuse plug is a unique device for holding the fuse, and also acts as a cover for the fuse. To insert fuse, loosen screws AA one or two turns and insert fuse between brasses, tighten screws and the fuse will be held in position, and the plug can then be inserted under the regular screws on the Main Block.

THEY WILL FIT ANY MAKE OF SAWYER-MAN MAINS.



No. 22.

<i>Evercted</i>	22 Sawyer-Man Main, 10 amperes, each.....	.17
<i>Evercting</i>	23 " " 25 " " .....	.23
<i>Everction</i>	24 " " 50 " " .....	.34
<i>Everct</i>	25 " " 100 " " .....	.60
<i>Evercted</i>	26 Fuse Plug, 10 " " .....	.05
<i>Evercting</i>	27 " " 25 " " .....	.05

### Double Pole Switch Cut-out.

This Cut-out is of new design and embraces certain features specially adapting it for use in the mains, feeders and sub-feeders of incandescent wiring systems.

The terminals and Switch mechanism are of ample proportions for the service required, and at the same time are so compact in arrangement as to take but little room, a very desirable feature when the limited space allowed for Cut-out cabinets in buildings is considered.

The Switch breaks either pole independently, making a quick break, and cannot be caused to open or close or become loose in connection by any jar communicated through a building.



No. 2405.

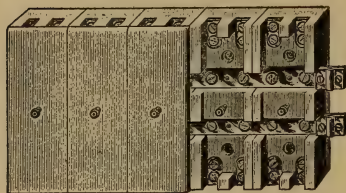
<i>Everent</i>	2405 100 Amperes, each.....	5.00
<i>Everentful</i>	2406 200 " " .....	6.00
<i>Everentual</i>	2407 300 " " .....	7.50
<i>Everglade</i>	2408 400 " " .....	11.00



No. 1320.

### Multiple Cut-out Board.

<i>Excursion</i>	1320 Per Circuit .....	1.80
------------------	------------------------	------



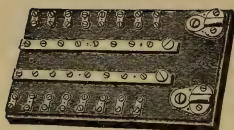
No. 20727.

Code Word.

List No.

List Price.  
Each.

<i>Sacque</i>	20723	2 Circuit.	\$1.80
<i>Sacral</i>	20724	4 "	3.60
<i>Sacrament</i>	20725	6 "	5.40
<i>Sacramental</i>	20726	8 "	7.20
<i>Sacramental</i>	20727	10 "	9.00
<i>Sacrate</i>	20728	12 "	10.80
<i>Sacre</i>	20729	14 "	12.60



No. 20732.

## E. E. &amp; S. Circuit Boards.

## Plain, Unfinished.

<i>Sacred</i>	20730	6 Circuit.	4.80
<i>Sacredly</i>	20731	7 "	5.60
<i>Sacredness</i>	20732	8 "	6.40
<i>Sacrifice</i>	20733	9 "	7.20
<i>Sacrificial</i>	20734	10 "	8.00
<i>Sacrifice</i>	20735	11 "	8.80
<i>Sacrificer</i>	20736	12 "	9.60
<i>Sacrificial</i>	20737	13 "	10.40
<i>Sacrilege</i>	20738	14 "	11.20
<i>Sacrilegious</i>	20739	15 "	12.00

## Enameled Slate.

<i>Sacrilegist</i>	20740	6 Circuit.	5.40
<i>Sacring</i>	20741	7 "	6.30
<i>Sacringbell</i>	20742	8 "	7.20
<i>Sacrist</i>	20743	9 "	8.10
<i>Sacristian</i>	20744	10 "	9.00
<i>Sacristy</i>	20745	11 "	9.90
<i>Sacrosanct</i>	20746	12 "	10.80
<i>Sacrum</i>	20747	13 "	11.70
<i>Sad</i>	20748	14 "	12.60
<i>Sadden</i>	20749	15 "	13.50

## Marble.

<i>Sadden</i>	20750	6 Circuit.	6.00
<i>Sadder</i>	20751	7 "	7.00
<i>Saddle</i>	20752	8 "	8.00
<i>Saddlebacked</i>	20753	9 "	9.00
<i>Saddlebags</i>	20754	10 "	10.00
<i>Saddlebars</i>	20755	11 "	11.00
<i>Saddlebone</i>	20756	12 "	12.00
<i>Saddlecloth</i>	20757	13 "	13.00
<i>Saddleleg</i>	20758	14 "	14.00
<i>Saddlelegirth</i>	20759	15 "	15.00



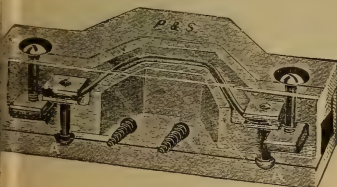


Nos. 2588 to 2592.

Code Word.  
*Excel*  
*Exceeded*  
*Excellence*  
*Excellency*  
*Excellent*

List No.	Soapstone Base.	List Price.
2588	25 Amperes, each.....	\$2.50
2589	50 " " ".....	2.75
2590	100 " " ".....	3.00
2591	250 " " ".....	3.50
2592	400 " " ".....	4.00

## Safety Fuse Block.



No. 38.

*Essentially*

## Covered Motor Cut-out.

### Single Pole.

This Cut-out is designed for motors on power circuits, and as it has a fuse 3 inches long, it is especially adapted for 500 volt circuits. The channel which incases the fuse is of such a shape as to cause the fuse to be bent at four angles, which adds to the efficiency, as it is difficult to maintain an arc around an angle. To remove fuse cover, to renew fuse, loosen screws AA one-half turn.

38	20 Amperes, each.....	.25
----	-----------------------	-----



No. 2409.

*Establish*

## Special Fuse Holders.

### With Cable Terminals.

2409	each.....	3.50
------	-----------	------

## Main Line Fuse Blocks.

For use in main line circuits where no switch is required. Mounted on slate base, and, with exception of fuse bar, indestructible.



No. 2576.

*Example*  
*Exasperate*  
*Exasperated*  
*Excarate*

2576	1 to 25 Amperes, each.....	1.15
2577	Over 25 to 100 Amperes, each.....	1.75
2578	" 100 " 300 " ".....	3.50
2579	" 300 " 600 " ".....	4.75



No. 2580.

*Excarated*  
*Excarating*  
*Excarator*  
*Excaration*

2580	1 to 25 Amperes, each.....	1.75
2581	Over 25 to 100 Amperes, each.....	3.00
2582	" 100 " 300 " ".....	5.75
2583	" 300 " 600 " ".....	7.00

### Single Pole.

### Double Pole:

### Three Pole.

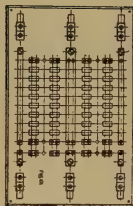
*Exceed*  
*Exceeded*  
*Exceeding*  
*Exceedingly*

2584	1 to 25 Amperes, each.....	3.00
2585	Over 25 to 100 Amperes, each.....	5.50
2586	" 100 " 300 " ".....	9.50
2587	" 300 " 600 " ".....	13.00

Ten per cent. advance for 500 volts.



## Cut-Out and Distributing Boards.



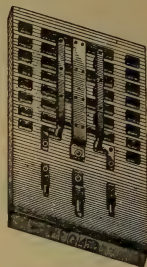
No. 101 M.



No. 105 M.



No. 145 A.

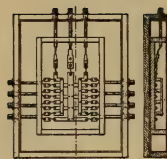


No. 145 B.

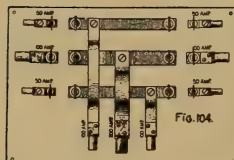
We illustrate a few of the many different styles of Cut-Out and Distributing Boards.

As most of these Boards are made in special sizes to suit the various conditions, it is difficult to list them. We have facilities for furnishing any style of these Boards, and will quote prices on receipt of specifications and requirements.

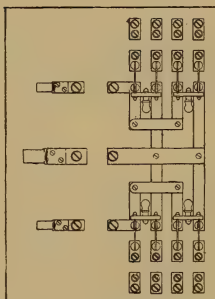
Boards may be furnished with plain slate, marbleized slate, or marble backs. Cut-Out boxes are made with single or double slate lining, and covers made of hardwood, slate or glass.



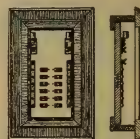
No. 17 M.



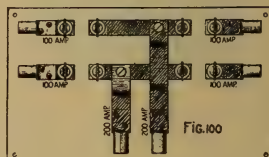
No. 104 M.



No. 145 S.



No. 135 M.



No. 100 M.

## Cut-Outs and Distributing Boards.—(Continued.)

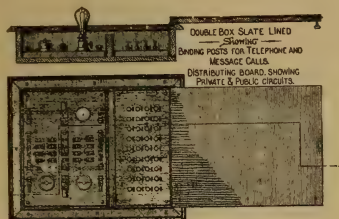


Fig. 146 M.

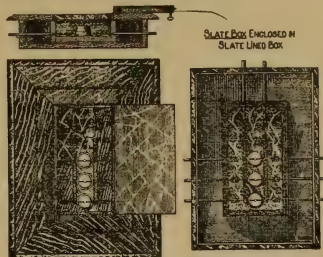


Fig. 147 M.

## Main Branch Cut-Outs.

The Cut-Outs illustrated, Figs. 148 W and 149 W, are designed for large capacities and are for the purpose of taking circuits off from mains on each floor of large buildings. The Mains feed into the bottom of the Cut-Outs and out at the top, being fused at both points; if desirable, or copper strips may be placed instead of fuses. The circuits branch each way on the sides and can be fused for the capacity desired. For all Cut-Outs over 200 amperes, parallel fuses are used, insuring sufficient contact on the bottom of the fuses to carry the current without heating from lack of contact. The space occupied by the fuse tips is reset, making it impossible to twist the fuses when the set screw is screwed down, a feature not found in other Cut-Outs. The set screws are of steel, copper-plated, with slotted hexagon heads, enabling the use of either a wrench or screwdriver. The connections on the larger size of Cut-Outs are made with swivel lugs which are of ample carrying capacity. The polarities are separated by one-quarter inch slate insulation.

This style of Cut-Out is also made for the 3-Wire and 3-Wire convertible systems.

The neutral fuses and lugs are of twice the capacity of one of the outside to enable the wires to be thrown on the 2-wire system when desired.

Swivel lugs are used on all the Cut-Outs above 100 amperes.

The contacts are mounted on slate or marble bases.

In ordering these Cut-Outs state what size of wire is desired to connect to the terminals and they will be bored accordingly.

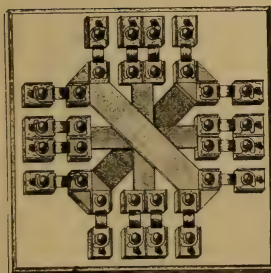


Fig. 148 W.

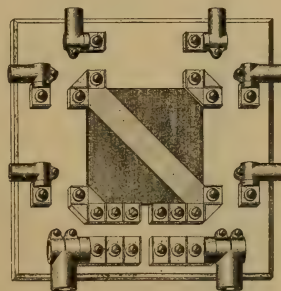


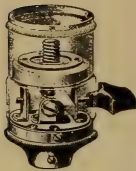
Fig. 149 W.

# SOCKETS AND RECEPTACLES.

## Bryant Standard No. 1 Sockets.



No. 855.



No. 849.



No. 859.



No. 3600.

Code Word.	List No.	List Price. Each.
<i>Arthur</i>	855 Westinghouse Key.....	\$0.60
<i>Assimilate</i>	856 Westinghouse Keyless.....	.50

<i>Asa</i>	851 Thomson-Houston Key .....	.60
<i>Assimilating</i>	852 Thomson-Houston Keyless.....	.50
<i>Root</i>	849 Thomson-Houston Key, Short Shell .....	.60
<i>Rootcrop</i>	850 Thomson-Houston Keyless, Short Shell.....	.50

<i>Exceptive</i>	859 United States Key, each .....	.70
<i>Exceptless</i>	860 United States Keyless, each.....	.60

## Keyless Street Socket.

With  $\frac{3}{8}$  inch opening, for use with pipe bracket.

<i>Calculate</i>	3608 Thomson-Houston Base .....	.30
<i>Coldiron</i>	3609 Westinghouse Base .....	.30



No. 952.

### Bryant "No. 2" Key Sockets.

Code Word.	List No	List Price Each.
<i>Chrysotis</i>	951 Thomson-Houston Key Socket .....	\$0.20
<i>Chrysotile</i>	952 Westinghouse Key Socket. ....	.20
	Not made in Keyless.	



No. 20204.

### Bryant No. 2A Key Sockets.

<i>Rootstock</i>	20204 No. 2A, Thomson-Houston Key Socket .....	.20
<i>Rootleaf</i>	20205 No. 2A, Thomson-Houston Keyless Socket .....	.15
<i>Rootless</i>	20206 No. 2A, Westinghouse Key Socket .....	.20
<i>Rootlet</i>	20207 No. 2A, Westinghouse Keyless Socket .....	.15



No. 20208.

### Bryant No. 2B Fixture Sockets.

<i>Rootstock</i>	20208 Thomson-Houston Key Socket .....	.20
<i>Rooty</i>	20209 Thomson-Houston Keyless Socket .....	.15
<i>Roote</i>	20210 Westinghouse Key Socket .....	.20
<i>Rootlet</i>	20211 Westinghouse Keyless Socket .....	.15

By means of the third bayonet joint, the shell is firmly "locked" to the base of the socket, making it impossible to "wobble" or "sag" when used with a heavy shade.

An examination of a sample lot will show its great advantage over the regular style.

### Bryant Pull Socket.

<i>Rootstock</i>	20202 Thomson-Houston Base .....	.50
<i>Rootlet</i>	20203 Westinghouse Base .....	.50

### G. E. Pull Socket.

<i>Rootstock</i>	9400 Edison Base .....	.60
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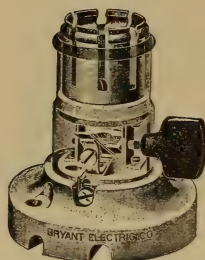
No. 20202.



No. 20212.

**Bryant Standard No. 1 Wall Socket.**

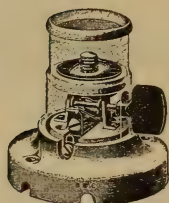
Code Word.	List No.	List Price. Each.
<i>Rope</i>	20212 No. 1, Thomson-Houston Key Wall Socket.....	\$0.25
<i>Ropeband</i>	20213 No. 1, Thomson-Houston Keyless Wall Socket.....	.20
<i>Ropedancer</i>	20214 No. 1, Westinghouse-Key Wall Socket.....	.25
<i>Ropedadder</i>	20215 Westinghouse Keyless Wall Socket.....	.20
<i>Ropemarker</i>	20216 U. S. Key Wall.....	.64
<i>Ropemut</i>	20217 U. S. Keyless Wall.....	.54



No. 20218.

**Bryant No. 2 Wall Socket.**

<i>Ropemut</i>	20218 No. 2, Thomson-Houston Key Wall Socket. ....	.22
<i>Roper</i>	20219 No. 2, Thomson-Houston Keyless Wall Socket.....	.18
<i>Roperipe</i>	20220 No. 2, Westinghouse Key Wall Socket.....	.22
<i>Ropery</i>	20221 No. 2, Westinghouse Keyless Wall Socket.....	.18



No. 20222.

**Bryant No. 2A Wall Socket.**

<i>Ropetrick</i>	20222 No. 2A, Thomson-Houston Key Wall Socket ...	.25
<i>Ropeventk</i>	20223 No. 2A, Thomson-Houston Keyless Socket.....	.20
<i>Ropeyarn</i>	20224 No. 2A, Westinghouse Key Wall Socket.....	.25
<i>Ropely</i>	20225 No. 2A, Westinghouse Keyless Wall Socket ...	.20

**Standard Edison Sockets.**

No. 69323.

<i>Ropiness</i>	69323 Gen. Elec. Co. Key Socket with Fibre Ring, polished.....	.35
<i>Ropish</i>	69364 Gen. Elec. Co. Key Socket with Rubber Ring, polished.....	.40



# Edison Sockets.



No. 69324.

Code Word.	List No.	List Price Each.
<i>Ropy</i>	69324 G. E. Keyless Socket $\frac{1}{2}$ in. Pipe, plain	\$0.30
<i>Roque</i>	69373 G. E. T. H. Keyless Socket $\frac{1}{2}$ in. Pipe, plain	.30



No 66223.

<i>Condor</i>	66223 Keyless Socket for $\frac{1}{2}$ in. Pipe, plain	.30
<i>Conduce</i>	66225 " " $\frac{1}{2}$ " polished	.35



No. 66235.

<i>Excreable</i>	66235 Keyless Electrolier Socket for $\frac{1}{2}$ in. Pipe, plain	.30
<i>Excreate</i>	66237 " " " $\frac{1}{2}$ " polished	.35



No. 9319.

<i>Excrentian</i>	9319 Keyless Socket for High Candle-Power Lamps	1.30
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No. 4505.

<i>Rorul</i>	4505 Socket for Series Incandescent Lamp for Alternating Current Circuits.	2.00
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No. 4504.

## Edison Sockets—(Continued).

Code Word	List No	List Price Each.
<i>Rorid</i>	4504	Socket for Series Incandescent Lamp for Arc Circuits ..... \$2.00



No. 60666.

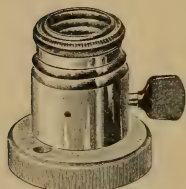
<i>Eecness</i>	60666	Edison Hard Rubber Waterproof Socket .....	.60
<i>Roriferous</i>	20226	T. H. Hard Rubber Waterproof Socket .....	.60



No. 66307.

<i>Roriffuent</i>	20227	Edison Porcelain Waterproof Socket .....	.35
<i>Roriquat</i>	20228	T. H. Porcelain Waterproof Socket .....	.35

<i>Rorulent</i>	66307	Edison Key Wall Socket, polished .....	.60
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No. 66297.

<i>Rory</i>	66297	Edison Key Wall Socket, plain .....	.40
<i>Rosary</i>	66299	Edison Key Wall Socket, polished .....	.45



No. 69368 and 69376.

Edison Sockets and Receptacles.—(Continued.)

Code Word.	List No.	List Price. Each.
<i>Rosechaffer</i>	69368	Key Wall Receptacle, Edison Base Lamp, Porcelain Base, polished brass ..... \$0.40
<i>Rosecolor</i>	69376	Key Wall Receptacle, T. H. Base Lamp, Porcelain Base, polished brass ..... .40



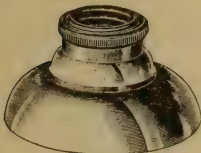
No. 69369 and 69377.

<i>Rosecolored</i>	69369	Keyless Wall Receptacle, Edison Base Lamp, Porcelain Base, polished brass ..... .35
<i>Rosecut</i>	69377	Keyless Wall Receptacle, T. H. Base Lamp, Porcelain Base, polished brass ..... .30



No. 66281, 50978 and 50979.

<i>Rosecut</i>	66281	Edison Keyless Wall Socket, polished ..... .40
<i>Rose</i>	50978	Edison Keyless Receptacle, with D. P. Fuse, plain ..... .45
<i>Roseal</i>	50979	Edison Keyless Receptacle, with D. P. Fuse, polished ..... .55



No. 66285.

<i>Rosecut</i>	66285	Edison Keyless Wall Socket, polished ..... .35
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No. 66272 and 66273.

<i>Rosebay</i>	66271	Edison Keyless Wall Socket, plain ..... .25
<i>Rosebug</i>	66273	Edison Keyless Wall Socket, polished ..... .30

## Weather-proof Sockets.

### H. W. Johns Mfg. Co.'s Moulded Mica Lamp Sockets.



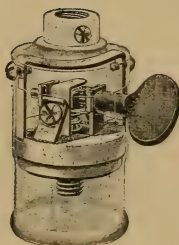
No. 3203.



No. 3202.



No. 3728.



No. 20254.

Made in Brown or Black.

Code Word.	List No.	List Price. Each.
<i>Architect</i>	3203	Thomson-Houston Base, Pendant Socket, 6 inch wires.....
		\$0.25

<i>Arching</i>	3202	Westinghouse Base, Pendant Socket, 6 inch wires, each.....
		.25

With Extra Long Wires.

Mica Sockets, with wires	6 inches long.....	.25
" " "	12 ".....	.27½
" " "	18 ".....	.30
" " "	24 ".....	.35
" " "	30 ".....	.40
" " "	3 feet long.....	.45
" " "	4 ".....	.55
" " "	5 ".....	.65
" " "	6 ".....	.75
" " "	7 ".....	.85
" " "	8 ".....	.95
" " "	10 ".....	1.15

<i>Lactation</i>	3383	Thomson-Houston Base, Mica Wall Socket...	.40
<i>Lactol</i>	3384	Westinghouse Base, Mica Wall Socket.....	.40
<i>Bedeck</i>	3730	Thomson-House Base, Mica Bracket Socket...	.50
<i>Bedding</i>	2729	Westinghouse Base, Mica Bracket Socket...	.50

Will fit ½ inch pipe bracket.

### Perkins Sockets.

Plain Sockets.

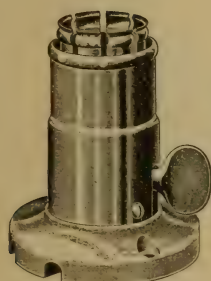
<i>Rosecraft</i>	20254	Key Socket for Thomson-Houston Base.....	.40
<i>Rosecraft</i>	20255	Keyless Socket for Thomson-Houston Base...	.35



No. 20257.

**Perkins Sockets.—Continued.****Plain.**

Code Word.	List No.	List Price. Each.
<i>Rosied</i>	20256 Key Socket for Westinghouse Base.....	\$0.40
<i>Rosier</i>	20257 Keyless Socket, Westinghouse Base.....	.35



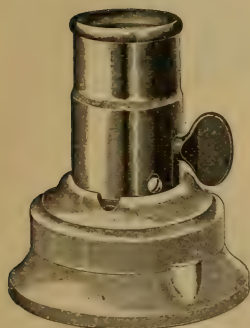
No. 20260.

**Wall.**

<i>Rosin</i>	20258 Key Wall Socket for Thomson-Houston Base...	.45
<i>Rosiness</i>	20259 Keyless Wall Socket for Thomson-Houston Base.....	.40
<i>Rosinail</i>	20260 Key Wall Socket for Westinghouse Base.....	.45
<i>Rosiny</i>	20261 Keyless Wall Socket for Westinghouse Base....	.40

**Fusible Wall.**

<i>Rosland</i>	20262 Key Fusible Wall Socket for Thomson-Houston Base .....	.75
<i>Rosmotive</i>	20263 Keyless Fusible Wall Socket for Thomson Houston Base.....	.70
<i>Rose</i>	20264 Key Fusible Wall Socket for Westinghouse Base .....	.75
<i>Rosell</i>	20265 Keyless Fusible Wall Socket for Westinghouse Base .....	.70



No. 20262.

This Fusible Wall Socket is a combination of the Dove-tail Rosette Cut-out and Perkins Socket. In ordering please state what style of base is required; whether cleat, concealed or moulding rosette.





No. 20269.

**Anchor Sockets.****Plain.**

Code Word.	List No.	List Price. Each.
<i>Rostel</i>	20269 Key Socket, T. H. Base.....	\$0.18
<i>Rostelate</i>	20270 Key Socket, Westinghouse Base.....	.18
<i>Rostrer</i>	20271 Keyless Socket, T. H. Base.....	.16
<i>Rostrul</i>	20272 Keyless Socket, Westinghouse Base.....	.16

**Special 3-8 Keyless Socket.**

Will screw on  $\frac{3}{8}$  inch pipe for street fixtures, brackets, etc.

<i>Rostrate</i>	20273 Special for T. H. Base.....	.20
<i>Rostrum</i>	20274 Special for Westinghouse Base.....	.20



No. 20276.

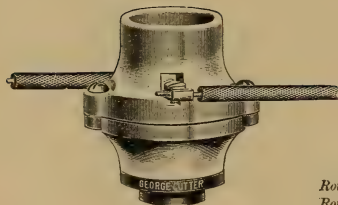
**Wall.**

<i>Rosulate</i>	20275 Key Socket, T. H. Base ..	.20
<i>Rot</i>	20276 Key Socket, Westinghouse Base.....	.20
<i>Rota</i>	20277 Keyless Socket, T. H. Base.....	.18
<i>Rotal</i>	20278 Keyless Socket, Westinghouse Base .....	.18

Extra long handles, extra ..... .20

Fancy finish, bronze, copper, etc., extra ..... .20

" " marble, onyx, granite, extra..... .20



No. 20279.

**Cutter's Street Hood Socket.**

Has the terminals exposed on the porcelain shell so that it is readily wired without pulling the wires through a narrow neck. Saves time and insures high insulation. Shipped complete with iron flange threaded to fit standard streethoods.

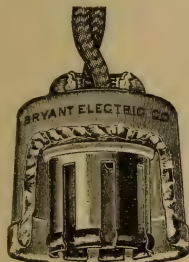
<i>Rotulite</i>	20279 Complete, T. H. Base .....	.25
<i>Rotary</i>	20280 " Westinghouse Base .....	.25
<i>Rotascope</i>	20281 " Edison Base .....	.30



No. 20230.

# Bryant Porcelain Weatherproof Sockets.

Code Word	List No	List Price Each.
<i>Rosediamond</i>	20229 T. H. Base	\$0.20
<i>Rosedrap</i>	20230 Westinghouse Base	.20



No. 20232.

<i>Rose-engine</i>	20231 T. H. W. P. Bracket Socket	.40
<i>Rosefish</i>	20232 Westinghouse W. P. Bracket Socket	.40

Fitted with  $\frac{1}{8}$  inch brass socket bushing for bracket work.



No. 20233.

## Side Wires.

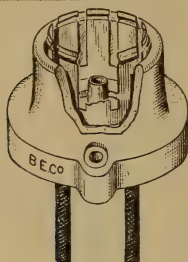
<i>Rosefly</i>	20233 Style A, for T. H. Lamp	.30
<i>Rosegull</i>	20234 Style A, for Westinghouse Lamp	.30



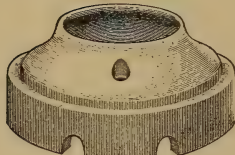
No. 20235.

## Bottom Wires.

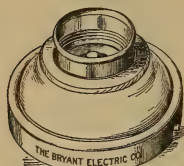
<i>Rosehead</i>	20235 For T. H. Lamp	.30
<i>Roseknot</i>	20236 For Westinghouse Lamp	.30



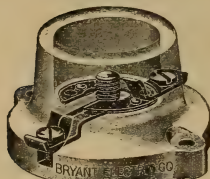
No. 20238.



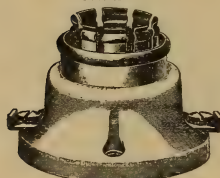
No. 868.



No. 20856.



No. 921.



No. 948.

## Bryant Porcelain Weatherproof Sockets.

—(Continued.)

Code Word.	List No.	List Price. Each.
<i>Roselake</i>	20237 T. H. Base .....	\$0.20
<i>Roselite</i>	20238 Westinghouse Base .....	.20
<i>Rosemullion</i>	20239 G. E. Edison Base .....	.30

This Socket is similar to No. 921 Receptacle, being fitted with back wires in place of side lugs.

## Porcelain Keyless Receptacles.

<i>Excitation</i>	868 For Thomson-Houston System, each .....	.40
<i>Excitation</i>	1868 For Westinghouse System .....	.40

### For Shade Holder.

Made extra heavy; fastened by turning the top, and so arranged that Shade Holder can be held. These Receptacles are made with fusible cut-outs.

<i>Saintess</i>	20856 For Thomson Houston system, each .....	.25
<i>Sainthood</i>	20857 For Westinghouse system, each .....	.25

### For Cleat Work.

<i>Excite</i>	921 For Thomson-Houston System .....	.15
<i>Excitement</i>	1921 For Westinghouse System .....	.15

## Special Shade Holder Receptacle.

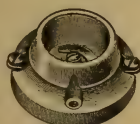
<i>Ecc</i>	948 Westinghouse Base .....	.20
<i>Eccn</i>	3948 Thomson-Houston Base .....	.20

# Standard Edison Receptacles.



No. 69171.

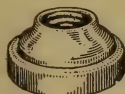
Code Word.	List No.	List Price. Each.
<i>Rosebush</i>	<b>69171</b> Edison Keyless Receptacle, Porcelain, with screw connections .....	<b>\$0.18</b>



No. 69370.

<i>Rosecrumpton</i>	<b>69370</b> Edison Keyless Wall Receptacle, T. H. Lamp, Porcelain.....	<b>.20</b>
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The Wall Receptacle No. 2868 is intended for use with attaching plug and portable lamp. The fuse in the receptacle protects the circuits without requiring a fuse in the attaching plug.



No. 2868.

<i>Excitatory</i>	<b>2868</b> Wall Receptacle, with fuse.....	<b>.40</b>
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No. 2921.

<i>Exciter</i>	<b>2921</b> Porcelain Receptacle for cleat work .....	<b>.18</b>
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No. 1948.

<i>Eceline</i>	<b>1948</b> Porcelain Receptacle for cleat work to take Shade Holder .....	<b>.25</b>
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No. 929.

<i>Exclaiming</i>	<b>929</b> K. W. Fusible Receptacle.....	<b>.40</b>
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No. 1949.

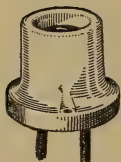
### Standard Edison Receptacles—(Continued.)

Code Word.	List No.	List Price. Each.
<i>Evening</i>	1949 K. W. Shade Holder Receptacle.....	\$0.50



No. 8830.

<i>Courtesy</i>	8830 K. W. Shade Holder Angle Receptacle.....	.80
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No. 20240.

### Edison Standard Waterproof Receptacles.

<i>Rosemary</i>	20240 G. E. Waterproof Receptacle.....	.40
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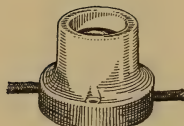
Extra heavy for refrigerators, stock yards, breweries and out of door work.



No. 20241.

<i>Rosen</i>	20241 G. E. Waterproof Receptacle.....	.30
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This is the same as No. 2021, with the side lugs taken off and bottom wires inserted.

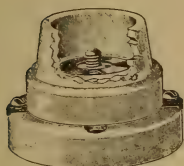


No. 20242.

<i>Roseauhle</i>	20242 G. E. Waterproof Receptacle .....	.40
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Extra heavy for refrigerators, stock yards, breweries, and out of door work.





No. 927.

**Bryant K. W. Receptacle.**

The K. W. Receptacle is for double fuse, and the cap will fit any regular K. W. Rosette base.

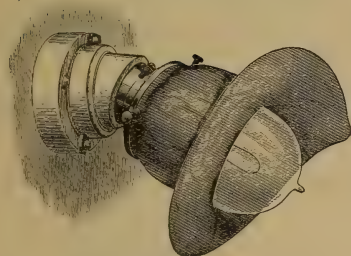
Code Word.	List No.	List Price. Each.
<i>Excelsior</i>	927 K. W. Receptacle for Thomson-Houston Lamp.	\$0.30
<i>Excelsior</i>	928 K. W. Receptacle for Westinghouse Lamp....	.30



No. 949.

**K. W. Shade Holder Receptacle.**

<i>Excelsior</i>	949 Westinghouse Base .....	.35
<i>Excelsior</i>	2949 Thomson-Houston Base .....	.35



No. 8831.

**K. W. Shade Holder Receptacle—Angle.**

<i>Courtesy</i>	8831 Thomson-Houston Base .....	.50
<i>Courtesy</i>	8832 Westinghouse Base .....	.50



No. 1922.

**Bryant Receptacle.**

For Concealed and Moulding Work.

<i>Excelsior</i>	922 For Thomson-Houston System .....	.30
<i>Excelsior</i>	1922 For Westinghouse System .....	.30



No. 867.

## Attachment Plugs.

Not Fusible—Wood Handle. With Metal Base.

Code Word.	List No.	List Price.
<i>Cetacean</i>	867 For Thomson-Houston System, each.....	\$0.25
<i>Cetaceous</i>	1867 " Westinghouse " " .....	.25
<i>Cetic</i>	2867 " Edison " " .....	.25



No. 66317.

<i>Cetologist</i>	66315 Attaching Plug, Edison Standard, plain, each....	.35
<i>Cetology</i>	66317 " " " polished, each.	.40

## Attachment Plugs.

Fusible—All Parts Brass and Porcelain.

The metal cover can be removed by giving it a quarter turn; the fuse is then easily inserted.



No. 923.

<i>Bawling</i>	923 For Thomson-Houston Socket, each.....	.40
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No. 924.

<i>Beach</i>	924 For Westinghouse Sockets, each.....	.40
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No. 925.

<i>Beacon</i>	925 For Edison Sockets, each.....	.40
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**"P. & S." China Key and Keyless Sockets.**

Code Word.	List No.		List Price. Each.
<i>Roseton</i>	20243	Key Socket for Drop Lights, T. H.	\$0.15
<i>Rosepink</i>	20244	" " W. H.	.15
<i>Rosequarts</i>	20245	Keyless Socket " T. H.	.12
<i>Roser</i>	20246	" " W. H.	.12
<i>Roseroot</i>	20247	Key Socket for Fixtures T. H.	.18
<i>Rosery</i>	20248	" " W. H.	.18
<i>Roset</i>	20249	Keyless Socket " T. H.	.15
<i>Rosetta</i>	20250	" " W. H.	.15
<i>Rosewater</i>	20251	Key Wall Socket, T. H.	.17
<i>Roselandon</i>	20252	" " W. H.	.17
<i>Rosewood</i>	20253	Keyless Wall Socket, T. H.	.14
<i>Rost</i>	20268	" " W. H.	.14



No. 117.

*Exclusively* 117 T. H. Porcelain Weatherproof Socket, P. & S. .20

The standard length of wire in this Waterproof Socket is 8 inches. We can, however, furnish them to order with wires of any length. Where it is desired to drop lamps a considerable distance from mains, it is an advantage to have wires long, so as to avoid splicing the wire.



No. 108.

**"P. & S." China Wall Socket Receptacles.**

We make these Receptacles in three different styles as shown. All have backs thus insuring high insulation. We use the same wire connection as is used in our Combination Rosette.



No. 111.

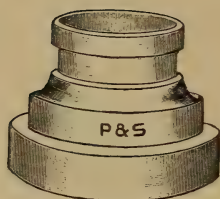
<i>Exclamatory</i>	108	With small back for Thomson-Houston Base	.15
<i>Exclude</i>	109	" " Westinghouse Base	.15



No. 114.

<i>Excluded</i>	111	With large back for Thomson-Houston Base	.17
<i>Exclamative</i>	112	" " Westinghouse Base	.17
<i>Exclusion</i>	114	With small back and screw for Thomson-Houston Base	.17
<i>Excluding</i>	115	With small back and screw for Westinghouse Base	.17

## Fusible Wall Socket Receptacles.



No. 8835.

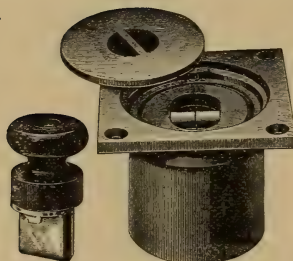
Code Word.	List No.	List Price. Each.
<i>Discredit</i>	8836 Concealed, for Thomson-Houston Base .....	\$0.17
<i>Discreet</i>	8837 " " Westinghouse Base .....	.17
<i>Discretion</i>	8839 Open, for Thomson-Houston Base .....	.17
<i>Discriminate</i>	8840 " " Westinghouse Base .....	.17
<i>Discuss</i>	8842 Cleat and Concealed, for Thomson-Houston Base ..	.19
<i>Donald</i>	8843 " " " Westinghouse Base ...	.19
<i>Doreas</i>	8845 Moulding and Concealed, for Thomson-Houston Base .....	.19
<i>Dorinder</i>	8846 Moulding and Concealed, for Westinghouse Base .....	.19
<i>Duncan</i>	8848 Full Combination, for Thomson-Houston Base ..	.19
<i>Doub</i>	8849 " " " Westinghouse Base .....	.19



No. 20266.

## P. &amp; S. Waterproof Receptacle.

<i>Russelly</i>	20266 Waterproof Receptacle, for Thomson-Houston Base .....	.20
<i>Rossignol</i>	20267 Waterproof Receptacle, for Westinghouse Base ..	.20

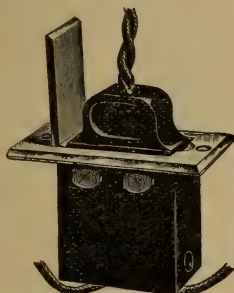


No. 6001.

No. 6000.

## Edison Key and Keyless Lamp Receptacles—

Code Word.	List No.	List Price
<i>Excising</i>	6000 Iron Stage Box and Receptacle, capacity 50 amperes, each .....	\$5.00
<i>Excision</i>	6001 Attaching Plug for No. 6000, each .....	1.75

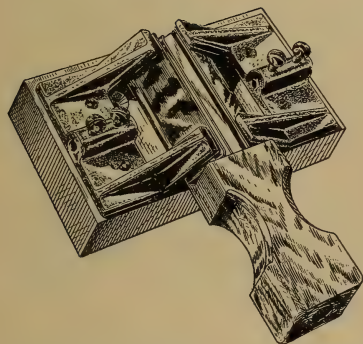


No. 20641.

### Improved Attachment Plug.

Adapted for use on office desks, for light and fans.  
 Portable Brackets.  
 Every cot in the hospitals, for light, power and electro-medical purposes.  
 In every room in large hotels, and  
 Portable show cases.  
 In fact, any place where you desire electric connection.  
 No large buildings should go up without them  
 Passed by the National Board of Fire Underwriters  
 and endorsed by leading electrical engineers.  
 Is flush with the wall or floor when plug is out.  
 Base made of porcelain, and all plugs interchangeable.  
 Is substantial, strong and durable.

Code Word	List No.	List Price. Each.
<i>Saintlike</i>	20859 With lid. . . . .	\$4.00
<i>Saintliness</i>	20860 Without lid . . . . .	3.50
<i>Saintly</i>	20861 Extra plugs. . . . .	2.00



No. 20862.

### Stage Receptacle.

The Jaws and Wire Connectors are made in one piece, of heavy cast brass. The face of the Jaws are pure tempered copper, securely fastened.

The handle is made of hard wood, appropriate for the purpose. The portion of the plug which enters the jaws is triangular in section, on two faces of which are secured heavy copper strips. These strips make a contact with the jaws and are also connected with the flexible cable which enters the handle of the plug through the hole in the end.

<i>Saintologist</i>	20862 Complete . . . . .	3.20
<i>Saintship</i>	20863 Without plug . . . . .	2.50
<i>Sajene</i>	20864 Plug only. . . . .	.70



# INCANDESCENT SUPPLIES.

## MISCELLANEOUS.



No. 3630.



No. 3632.



No. 3634.



No. 3636.



No. 3637.



No. 2927.

### Socket Bushings.

Code Word.	List No.	List Price.
<i>Anchored</i>	3630	Genuine Hard Rubber, $\frac{1}{8}$ inch, per 1,000.....\$20.00
<i>Anchoress</i>	3631	Composition, $\frac{1}{8}$ inch, per 1,000..... 8.00
<i>Anchorite</i>	3632	Genuine Hard Rubber, $\frac{1}{8}$ inch, per 1,000..... 22.50
<i>Anchoring</i>	3633	Composition, $\frac{1}{8}$ inch, per 1,000..... 9.00
<i>Anchory</i>	3634	Genuine Hard Rubber, $\frac{1}{8}$ inch, per 1,000..... 30.00
<i>Ancient</i>	3635	Composition, $\frac{1}{8}$ inch, per 1,000..... 12.00
<i>Anciently</i>	3636	Soft Rubber, per 1,000..... 7.00
<i>Ancipital</i>	3637	Genuine Hard Rubber, $\frac{1}{8}$ inch, per 1,000..... 30.00
<i>Cemetery</i>	2927	Polished Brass and Hard Rubber Fixture Bushing, each..... .25



No. 3457.

**Cord Adjusters.**

Code Word.	List No.	List Price.
<i>Bindingly</i>	3457	Ball Cord Adjuster, stained cherry, per 1,000....\$7.00



No. 3651.

<i>Beambird</i>	3651	Bar Cord Adjuster, per 1,000..... 7.00
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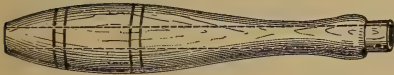
No. 5559.

<i>Idling</i>	5559	"Q and S" Cord Adjuster, each..... .04
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No. 3561.

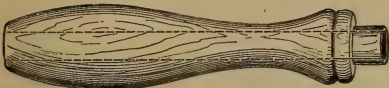
<i>Idiotic</i>	3561	Dumb Bell Cord Adjuster, per 1,000..... 3.00
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No. 1337.

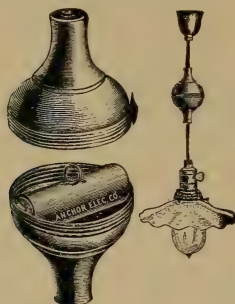
**Socket Handles.**

<i>Idler</i>	1337	Two Piece, screw top, per 1,000.... 15.00
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No. 3556.

<i>Idleness</i>	3556	One Piece, per 1,000..... 12.50
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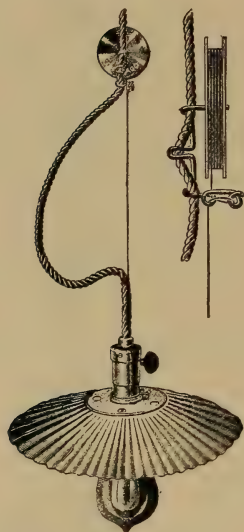


No. 20760.

### The Dow Cord Adjuster.

The Dow Adjuster is a thoroughly reliable device for instantly raising or lowering any electric light, and is especially adapted for stores, offices, libraries and hospitals. Can be operated with one hand; is not liable to get out of order, and is much safer than long cords, as the cord when not in use can be rolled up out of the way. In most places the Adjuster can be placed on the cord now in use. It is three inches in diameter and holds twelve feet of cord.

<i>Saddleshorse</i>	<b>20760</b>	Nickel-plated, per doz.	\$20.00
<i>Saddler</i>	<b>20761</b>	Gilt, " "	18.00



No. 20762.

### The Disc Cord Adjuster.

It is round, scarce two and a quarter inches in diameter; it is flat, a thickness of but little more than a quarter of an inch. It is in shape like a spool of small height and large diameter; it is hollow, and in its inside is a well tempered spiral spring. A wire twisted into a peculiar shape, fastens this little device to a lamp cord. In the spool-like groove is wound a cord which passes through the loop, extending from the side wire. Fasten it to the lamp cord, pull this cord out the entire length; this winds up the spring, and while the cord is extended fasten it to the lamp cord. You can then raise your lamp to any desired height. It will stay there until you change it.

<i>Saddleshorse</i>	<b>20762</b>	Each	.50
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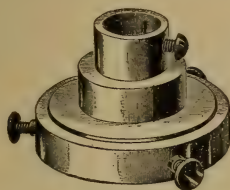
No. 8691.

### Perfection Desk or Music Rack Clamp.

Sold complete, including half shade of opal, red, blue, green or yellow glass or of aluminum.

<i>Crimful</i>	<b>8691</b>	Brass, each	3.50
<i>Castlery</i>	<b>8692</b>	Nickel, " "	4.00

In ordering, state kind of socket required.



No. 3618.

### Shade Holder for Cluster Lights.

Slips  $\frac{3}{8}$  Inch Tube.

Code Word.	List No.	List Price.
<i>Caloric</i>	3618 $2\frac{1}{4}$ Inch, each. ....	\$0.30
<i>Calorific</i>	3619 $3\frac{1}{4}$ " " .....	.40

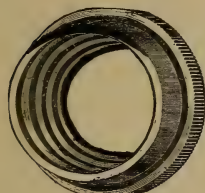


No. 3803.

### Acme Shade Holder.

Will Fit Any Socket.

<i>Belong</i>	3803 $2\frac{1}{4}$ Inch, per gross. ....	10.00
<i>Belonging</i>	3804 $3\frac{1}{4}$ " " .....	15.00



No. 3198.

### Socket Rings.

<i>American</i>	3197 Hard Rubber Ring for Standard Edison Socket, each .....	.15
<i>Amethyst</i>	3198 Porcelain Ring for Standard Edison Socket, each, ..	.10



No. 2694.

<i>Exclamation</i>	2694 Soft Rubber Socket Cover, each. ....	.10
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### Gas Attachments.



No. 8723.

<i>Consorial</i>	8723 Polished Brass, per 100. ....	10.00
<i>Ancient</i>	3635 Composition Fixture Bushing for same, per 1,000, ..	12.00
<i>Anchovy</i>	3634 Hard Rubber " " " " .....	30.00
<i>Censurable</i>	8724 Polished Brass, per 100. ....	9.00
<i>Ancient</i>	3635 Composition Fixture Bushing for same, per 1,000, ..	12.00
<i>Anchovy</i>	3634 Hard Rubber " " " " .....	30.00



No. 8724.



No. 239.

<i>Census</i>	239	Stamped Brass, not polished, per 100.....	\$ 5.00
<i>Centage</i>	240	" polished, " .....	7.00



No. 8679.

### Flexible Brass Chain.

This Chain will cover No. 16 Cord, or smaller sizes. Extra size Chain made only on special orders. Standard Chain is made in lengths of 25 feet, but it is easily separated or spliced, and it is easily attached.

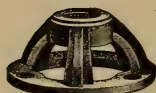
<i>Captive</i>	8879	Brass, per foot.....	.15
<i>Captivity</i>	8880	Nickel, " .....	.20



No. 8677.

### Iron Duopod.

<i>Lank</i>	8677	Tapped $\frac{1}{4}$ to $\frac{1}{2}$ inch, per dozen.....	1.00
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No. 8678.

### Iron Tripod.

<i>Langishment</i>	8678	Per dozen.....	.75
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No. 8679.

### Iron Crowfoot.

<i>Langnor</i>	8679	Per dozen.....	.70
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No. 8680.



No. 8681.

### Iron Chandelier Loops.

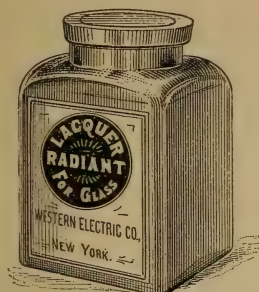
<i>Langnishing</i>	8680	Closed, per dozen.....	3.00
<i>Lantern</i>	8681	Closed, per dozen.....	3.00



No. 8683.

<i>Lanyard</i>	8682	Open, $\frac{1}{4}$ inch, per dozen .....	3.00
<i>Lapdog</i>	8683	" $\frac{3}{8}$ " " .....	3.00
<i>Lapful</i>	8684	" $\frac{1}{2}$ " " .....	3.00





No. 8983.

## Lacquer Radiant.

### For Coloring Incandescent Lamps.

The advantages of this material are: Cheapness, richness and permanency of color, and simplicity of application.

12-Ounce Bottle.

Code Word.	List No.		List Price.
<i>Centennial</i>	8983	Ruby, per bottle.....	\$ 1.50
<i>Centering</i>	8984	Amber, ".....	1.50
<i>Centesimal</i>	8985	Blue, ".....	1.50
<i>Centigrade</i>	8986	Green, ".....	1.50
<i>Centime</i>	8987	Orange, ".....	1.50
<i>Centipede</i>	8988	Violet, ".....	1.50

6-Ounce Bottle.

<i>Mantau</i>	14850	Ruby, per bottle.....	.80
<i>Manoka</i>	14851	Amber, ".....	.80
<i>Manteno</i>	14852	Blue, ".....	.80
<i>Manton</i>	14853	Green, ".....	.80
<i>Manville</i>	14854	Orange, ".....	.80
<i>Mopim</i>	14855	Violet, ".....	.80

Full directions with each bottle.



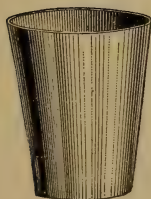
No. 8989.

## Frosting Varnish.

### For Frosting Incandescent Lamps.

Contains no acid, is perfectly harmless and easily applied.

<i>Centenary</i>	8989	Per 12-oz. bottle.....	1.50
<i>Centallo</i>	14856	Per 6-oz. bottle.....	.80



No. 8990.

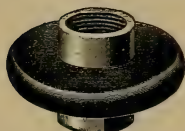
## Metal Dipping Cup.

### For Use with Lacquer Radiant and Frosting Varnish.

<i>Centaur</i>	8990	Each.....	.40
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Registered July 31, 1894.



No. 1001.

## The Macallen Solid Mica Insulating Joint.

These Joints have been approved and recommended by the Boards of Fire Underwriters throughout the country, and are recognized by the trade as the standard insulating joint.

All our joints are tested electrically to 2500 volts, and all our combination joints are tested under high atmospheric pressure, and we guarantee them not to leak gas.

### IN COMPOSITION BRASS.

#### Combination.

<i>Cormorant</i>	1001	$\frac{3}{8} \times \frac{1}{2}$ , each	\$0.50
<i>Corn</i>	1002	$\frac{3}{8} \times \frac{1}{2}$ , "	.50
<i>Cornea</i>	1003	$\frac{3}{8} \times \frac{1}{2}$ , "	.50
<i>Corned</i>	1004	$\frac{1}{2} \times \frac{1}{2}$ , "	.66%
<i>Cornelia</i>	1005	$\frac{1}{2} \times \frac{1}{2}$ , "	.66%
<i>Cornelius</i>	1006	$\frac{1}{2} \times \frac{1}{2}$ , "	.66%
<i>Cornet</i>	1007	$\frac{1}{2} \times \frac{1}{2}$ , "	.66%
<i>Cornet</i>	1008	$\frac{1}{2} \times \frac{1}{2}$ , "	1.00
<i>Cornetcy</i>	1009	$\frac{1}{2} \times \frac{1}{2}$ , "	1.00
<i>Cornish</i>	1010	$\frac{1}{2} \times \frac{1}{2}$ , "	1.00
<i>Cornucopia</i>	1011	$\frac{1}{2} \times \frac{1}{2}$ , "	1.00
<i>Corollary</i>	1012	$\frac{1}{2} \times \frac{1}{2}$ , "	1.00
<i>Corona</i>	1013	$1 \times \frac{1}{2}$ , "	1.60
<i>Coronal</i>	1014	$1 \times \frac{1}{2}$ , "	1.60
<i>Coronary</i>	1015	$1 \times 1$ , "	1.60
<i>Coroner</i>	1016	$1\frac{1}{2} \times 1$ , "	2.20
<i>Corporal</i>	1017	$1\frac{1}{2} \times 1\frac{1}{2}$ , "	2.20
<i>Corporally</i>	1018	$1\frac{1}{2} \times 1\frac{1}{2}$ , "	4.00
<i>Corporate</i>	1019	$2 \times 2$ , "	6.00

Larger sizes made to order, special prices.

#### Blank.

<i>Corporation</i>	1021	$\frac{3}{8} \times \frac{1}{2}$ , each	.50
<i>Corpulence</i>	1022	$\frac{3}{8} \times \frac{1}{2}$ , "	.50
<i>Corpulent</i>	1023	$\frac{3}{8} \times \frac{1}{2}$ , "	.50
<i>Corrective</i>	1024	$\frac{1}{2} \times \frac{1}{2}$ , "	.66%
<i>Conducting</i>	1025	$\frac{1}{2} \times \frac{1}{2}$ , "	.66%
<i>Conduction</i>	1026	$\frac{1}{2} \times \frac{1}{2}$ , "	.66%
<i>Conductor</i>	1027	$\frac{1}{2} \times \frac{1}{2}$ , "	.66%
<i>Cone</i>	1028	$\frac{1}{2} \times \frac{1}{2}$ , "	1.00
<i>Confab</i>	1029	$\frac{1}{2} \times \frac{1}{2}$ , "	1.00
<i>Confederacy</i>	1030	$\frac{1}{2} \times \frac{1}{2}$ , "	1.00
<i>Confederate</i>	1031	$\frac{1}{2} \times \frac{1}{2}$ , "	1.00
<i>Confederating</i>	1032	$\frac{1}{2} \times \frac{1}{2}$ , "	1.00
<i>Confederation</i>	1033	$1 \times \frac{1}{2}$ , "	1.60
<i>Confer</i>	1034	$1 \times \frac{1}{2}$ , "	1.60
<i>Conference</i>	1035	$1 \times 1$ , "	1.60
<i>Confess</i>	1036	$1\frac{1}{2} \times 1$ , "	2.20
<i>Confessedly</i>	1037	$1\frac{1}{2} \times 1\frac{1}{2}$ , "	2.20
<i>Confessing</i>	1038	$1\frac{1}{2} \times 1\frac{1}{2}$ , "	4.00
<i>Confessor</i>	1039	$2 \times 2$ , "	6.00

Larger sizes made to order, special prices.

## The Macallen Solid Mica Insulating Joint.

## IN MALLEABLE IRON.

Code Word.	List No.	Combination.	List Price.
<i>Confineless</i>	1041	$\frac{3}{8} \times \frac{1}{2}$ , each.....	\$0.45
<i>Confinement</i>	1042	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.45
<i>Confinner</i>	1043	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.45
<i>Confirm</i>	1044	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.60
<i>Confirmable</i>	1045	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.60
<i>Confiscate</i>	1046	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.60
<i>Confiscating</i>	1047	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.60
<i>Confidant</i>	1048	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.90
<i>Confide</i>	1049	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.90
<i>Confidence</i>	1050	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.90
<i>Confidently</i>	1051	$1 \times \frac{1}{2}$ , ".....	1.45
<i>Confiding</i>	1052	$1 \times \frac{1}{2}$ , ".....	1.45
<i>Confine</i>	1053	$1 \times 1$ , ".....	1.45

## Blank.

<i>Conform</i>	1061	$\frac{3}{8} \times \frac{1}{2}$ , each.....	.45
<i>Conformable</i>	1062	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.45
<i>Conformation</i>	1063	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.45
<i>Conformed</i>	1064	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.60
<i>Conforming</i>	1065	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.60
<i>Conformist</i>	1066	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.60
<i>Conformity</i>	1067	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.60
<i>Confecator</i>	1068	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.90
<i>Confugration</i>	1069	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.90
<i>Conflict</i>	1070	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.90
<i>Conflicting</i>	1071	$1 \times \frac{1}{2}$ , ".....	1.45
<i>Confuence</i>	1072	$1 \times \frac{1}{2}$ , ".....	1.45
<i>Confuent</i>	1073	$1 \times 1$ , ".....	1.45

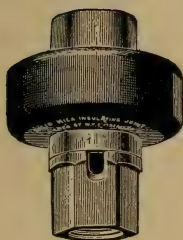
## Electroliter or Separable Joint.

## IN MALLEABLE IRON.

<i>Confound</i>	1101	$\frac{3}{8} \times \frac{1}{2}$ , each.....	.50
<i>Confounded</i>	1102	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.50
<i>Confounding</i>	1103	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.50
<i>Confront</i>	1104	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.66%
<i>Confrontant</i>	1105	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.66%
<i>Confrontation</i>	1106	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.66%
<i>Confronted</i>	1107	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.66%
<i>Confronting</i>	1110	$\frac{3}{8} \times \frac{1}{2}$ , ".....	1.00
<i>Confrontment</i>	1111	$\frac{3}{8} \times \frac{1}{2}$ , ".....	1.00

## IN COMPOSITION BRASS.

<i>Confuse</i>	1081	$\frac{3}{8} \times \frac{1}{2}$ , each.....	.60
<i>Confused</i>	1082	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.60
<i>Confusedly</i>	1083	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.60
<i>Confusedness</i>	1084	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.80
<i>Confusing</i>	1085	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.80
<i>Confusion</i>	1086	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.80
<i>Confutable</i>	1087	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.80
<i>Confutation</i>	1090	$\frac{3}{8} \times \frac{1}{2}$ , ".....	1.20
<i>Confute</i>	1091	$\frac{3}{8} \times \frac{1}{2}$ , ".....	1.20



No. 1101.



No. 1141.

# The Macallen Solid Mica Bracket Joint.

IN MALLEABLE IRON

Code Word.	List No.	Combination.	List Price.
<i>Confuted</i>	1141	$\frac{3}{8} \times \frac{1}{2}$ , each.....	\$0.36
<i>Confuting</i>	1142	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.36
<i>Congeat</i>	1143	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.36
<i>Congeating</i>	1144	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.50
<i>Congelation</i>	1145	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.50
<i>Congener</i>	1146	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.50

## Blank.

<i>Congenerie</i>	1151	$\frac{3}{8} \times \frac{1}{2}$ , each.....	.36
<i>Congenial</i>	1152	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.36
<i>Congenital</i>	1153	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.36
<i>Congest</i>	1154	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.50
<i>Congestible</i>	1155	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.50
<i>Congestion</i>	1156	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.50

IN COMPOSITION BRASS.

## Combination.

<i>Congression</i>	1121	$\frac{3}{8} \times \frac{1}{2}$ , each.....	.40
<i>Congruent</i>	1122	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.40
<i>Conicality</i>	1123	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.40
<i>Conifer</i>	1124	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.54
<i>Coniform</i>	1125	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.54
<i>Conjecture</i>	1126	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.54

## Blank.

<i>Conjoin</i>	1131	$\frac{3}{8} \times \frac{1}{2}$ , each.....	.40
<i>Conjoint</i>	1132	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.40
<i>Conjointly</i>	1133	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.40
<i>Conjointness</i>	1134	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.54
<i>Conjugal</i>	1135	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.54
<i>Conjugate</i>	1136	$\frac{3}{8} \times \frac{1}{2}$ , ".....	.54



No. 8790.

# "P. & S." China Insulating Joint.

<i>Cenobite</i>	8790	$\frac{3}{8} \times \frac{1}{2}$ in., $2\frac{1}{2}$ in. diameter, each.....	.27
<i>Cenobitic</i>	8791	$\frac{3}{8} \times \frac{1}{2}$ " " $\frac{1}{2}$ " next to wall, $2\frac{1}{2}$ in. diameter, each,	.27
<i>Cenotaph</i>	8792	$\frac{3}{8} \times \frac{1}{2}$ " " $\frac{3}{8}$ " " " $2\frac{1}{2}$ " " " "	.27
<i>Censor</i>	8793	$\frac{3}{8} \times \frac{1}{2}$ " " $2\frac{1}{2}$ " diameter, each.....	.27
<i>Casket</i>	8794	$\frac{3}{8} \times \frac{1}{2}$ " " $\frac{1}{2}$ " next to wall, $2\frac{1}{2}$ in. diameter, each,	.33
<i>Caspian</i>	8795	$\frac{3}{8} \times \frac{1}{2}$ " " " " " $2\frac{1}{2}$ " " " "	.33
<i>Casock</i>	8796	$\frac{3}{8} \times \frac{1}{2}$ " " " " " $2\frac{1}{2}$ " " " "	.33
<i>Castinet</i>	8797	$\frac{3}{8} \times \frac{1}{2}$ " " $2\frac{1}{2}$ " diameter, each.....	.33
<i>Castaway</i>	8798	$\frac{3}{8} \times \frac{1}{2}$ " " $\frac{3}{8}$ " next to wall, 3 in. diameter, each,	.38
<i>Caste</i>	8799	$\frac{3}{8} \times \frac{1}{2}$ " " $\frac{1}{2}$ " " " 3 " " "	.38
<i>Castellan</i>	8800	$\frac{3}{8} \times \frac{1}{2}$ " " 3 " diameter, each.....	.38



## Tested Fuse Wire and Ribbon.

## Fuse Wire.

Code Word	List No.	Dia. Mils.	Carry Cap Amp	Std. Lgth.	Ft. lb.	Price per lb.
<i>Roundshoulder</i>	20352	17	½	1½ in.	930	\$3.20
<i>Roundtip</i>	20353	19	¾	1½ "	750	2.00
<i>Roundtrade</i>	20354	20	1	1½ "	660	.80
<i>Roundtray</i>	20355	23	1	1½ "	490	.80
<i>Round</i>	20356	25	2	1½ "	460	.80
<i>Rousant</i>	20357	27	3	1½ "	370	.80
<i>Rouse</i>	20358	30	4	1½ "	320	.80
<i>Rouser</i>	20359	35	5	2 "	208	.75
<i>Rousing</i>	20360	38	6	2 "	184	.75
<i>Rousingly</i>	20361	44	7	2 "	138	.75
<i>Roust</i>	20362	47	8	2 "	117	.75
<i>Rout</i>	20363	54	9	2 "	93	.70
<i>Route</i>	20364	58	10	2 "	79	.70
<i>Routine</i>	20365	62	12	3 "	73	.70
<i>Routously</i>	20366	68	14	3 "	60	.70
<i>Rove</i>	20367	72	15	3 "	55	.70
<i>Rover</i>	20368	75	16	3 "	50	.70
<i>Roving</i>	20369	78	18	3 "	45	.70
<i>Rovingly</i>	20370	85	20	3 "	35	.70
<i>Rovingmachine</i>	20371	91	22½	3 "	32	.70
<i>Rovingness</i>	20372	101	25	4 "	26	.70
<i>Rovingshot</i>	20373	111	30	4 "	23	.70
<i>Rovee</i>	20374	120	35	4 "	17.7	.60
<i>Rovenble</i>	20375	132	40	4 "	16.3	.60
<i>Rovenntree</i>	20376	139	45	4 "	14.0	.60
<i>Roveboat</i>	20377	150	50	4 "	12.0	.60
<i>Rovey</i>	20378	164	55	5 "	10.4	.60
<i>Roveyish</i>	20379	170	60	5 "	9.7	.50
<i>Roveel</i>	20380	180	70	5 "	8.3	.50
<i>Rovenen</i>	20381	190	75	5 "	7.5	.50
<i>Rover</i>	20382	200	80	5 "	6.7	.50
<i>Rovett</i>	20383	210	90	5 "	6.0	.50
<i>Roveleyrugg</i>	20384	220	100	5 "	5.6	.50

½ to 30 Amp. inclusive, on 1 lb. spools. 35 to 100 Amp. inclusive,  
on 2 lb spools.

## Tested Fuse Ribbon.

	No. Ribbon	Carrying Capacity, Amperes	Length in inches.	Size.	Feet, per lb.	Price, per lb.
<i>Rovlock</i>	20385	2 R	50	3 in. 3-8 in. x .05	13.0	.60
<i>Roveport</i>	20386	3 R	75	3½ " 1-2 " x .05	9.3	.60
<i>Roy</i>	20387	3½ R	80	4 " 5-8 " x .05	7.3	.60
<i>Royal</i>	20388	4 R	100	4½ " 7-16 " x .09	5.2	.50
<i>Royalet</i>	20389	5 R	125	4½ " 17-32 " x 10	4.2	.50
<i>Royalism</i>	20390	6 R	150	4½ " 5-8 " x 10	3.4	.50
<i>Royalist</i>	20391	7 R	175	4½ " 3-4 " x 10	3.0	.50
<i>Royalize</i>	20392	8 R	200	5 " 7-8 " x 10	2.5	.50
<i>Royalty</i>	20393	10 R	250	6 " 1 " x 11	1.9	.50
<i>Royalty</i>	20394	12 R	300	6 " 1 " x 19	1.1	.50
<i>Royne</i>	20395	20 R	500	6 " 1½ " x 18	.8	.50





No. 1.



No. 2 A.



No. 2 1/2 B.



No. 3 A.



No. 4 A.



No. 4 1/2 B.

## Standard Fuse Links.

Code Word.	List No.	Carrying Capacity.	Terminals.	Distance between Centers.	List Price per 1000.
<i>Harmonical</i>	656	1 Ampere.	No. 1	1 1/8 inches	30.00
<i>Harmonics</i>	657	2 "	"	"	30.00
<i>Harmonious</i>	658	3 "	"	"	30.00
<i>Harmonist</i>	659	5 "	"	"	30.00
<i>Harmonize</i>	660	8 "	No. 2	"	50.00
<i>Harmonized</i>	661	10 "	"	"	50.00
<i>Harmonizing</i>	662	12 "	"	"	50.00
<i>Harmony</i>	663	15 "	"	"	50.00
<i>Harness</i>	664	25 "	No. 3	2 inches	50.00
<i>Harnessed</i>	665	25 "	"	"	50.00
<i>Harnessing</i>	666	30 "	"	"	50.00
<i>Harold</i>	667	35 "	"	"	50.00
<i>Harping</i>	668	40 "	"	"	50.00
<i>Harpoon</i>	669	45 "	"	"	50.00
<i>Harpooned</i>	670	50 "	"	"	50.00
<i>Harpooning</i>	671	60 "	No. 4	2 1/4 inches	80.00
<i>Harpsichord</i>	672	75 "	"	"	80.00
<i>Harriet</i>	673	90 "	"	"	80.00
<i>Harrow</i>	674	100 "	No. 5	2 1/2 inches	100.00
<i>Harrowed</i>	675	125 "	"	"	100.00
<i>Harrowing</i>	676	150 "	"	"	100.00
<i>Harshly</i>	677	175 "	No. 6	"	120.00
<i>Harshness</i>	678	200 "	"	"	120.00
<i>Harshhorn</i>	679	225 "	"	"	120.00
<i>Harvest</i>	680	250 "	"	"	120.00
<i>Harvested</i>	681	275 "	"	"	120.00
<i>Harvesting</i>	682	300 "	"	"	150.00
<i>Hascock</i>	683	400 "	"	"	180.00
<i>Hostily</i>	684	500 "	"	"	180.00

Prices are based upon the TERMINAL used, and not upon the carrying capacity. An additional charge will be made for links over 4 inches between centers, based upon the extra metal used and the difficulty in manufacture.

In ordering, find the exact cut of the Fuse Link required, and then specify:

FIRST. Safe carrying capacity.

SECOND. Terminal number, *e. g.*, 3 A, 3 B or 3 C.

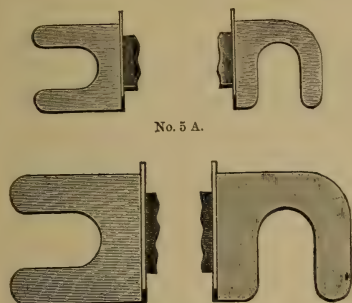
THIRD. Distance between centers of binding posts.

NOTE.—The fusing point of Shawmut Fuse Links is about 30 per cent. above safe carrying capacity.



## Sawyer-Man Flat Lead Links.

	Dist. between Center.	Ampers.	
<i>Rogynish</i>	20396 1 1/8 inch.	10-25	25.00
<i>Rogsterer</i>	20397 2 1/4 "	25-40	40.00
<i>Rogstereror</i>	20398 2 1/2 "	40-50	45.00
<i>Rogtlet</i>	20399 2 3/4 "	50-60	50.00
<i>Rogtish</i>	20400 2 1/2 "	60-80	60.00
<i>Rut</i>	20401 2 1/2 "	80-125	100.00
<i>Rubadub</i>	20402 2 1/2 "	125-175	120.00
<i>Rubuto</i>	20403 2 1/2 "	175-225	150.00



No. 5 A.

No. 6 A.

### Shawmut Copper Terminals.

Code Word.	List No.	Number.	Maximum Capacity in Amperes	List Price per 1000.
<i>Rubhang</i>	20404	1	10	9.20
<i>Rubbar</i>	20405	2	20	9.40
<i>Rubridge</i>	20405½	2½ B	30	9.40
<i>Rubbish</i>	26407	3	40	12.00
<i>Rubishly</i>	20408	4	100	19.00
<i>Rubble</i>	20409	4½ B	100	19.20
<i>Rubblestone</i>	20410	5	200	30.00
<i>Rubblecut</i>	20411	5½ or 6	300	58.00
<i>Rubblecrack</i>	20412	6½ or 6 thick	600	64.00
<i>Rubbly</i>	20413	8	1000	120.00
<i>Rubeditious</i>	20414	10 C	1500	160.00
<i>Rubeficient</i>	20415	T. H. Ry	150	20.00

### Shawmut Specially Designed Fuses.

Designed for Ceiling Rosettes and all makes of Sawyer-Man Main and Branch Cut-outs.

#### For Ceiling Rosettes.

	Price per 1000.
1, 3, 5 Amperes, 1 inch centers, 1 B Terminal.....	50.00

#### For 25 Ampere Main or Branch.

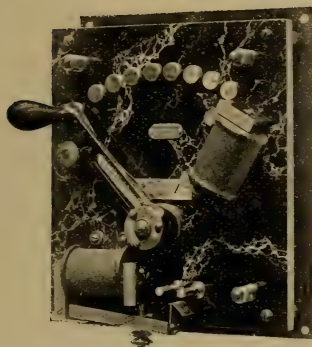
5, 10, 15, 20, 25 Amperes, 1½ inch centers, 2½ B Terminal .....	80.00
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#### For 50 Ampere Main or Branch.

30, 35, 40, 45, 50 Amperes, 2½ inch centers. 4½ B Terminal .....	120.00
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#### For 100 Ampere Main.

75, 100 Amperes, 2½ inch centers, 5 B Terminal.....	135.00
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20 Ampere Type.

### Cutler-Hammer Rheostats.

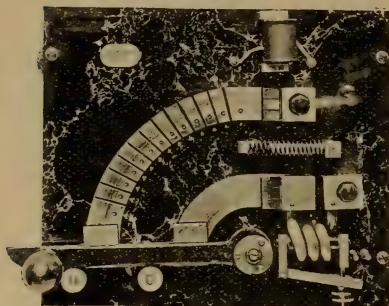
#### MOTOR STARTING BOXES.

##### With Automatic Release and Circuit Breaker.

This device is a combined Starting Box and Circuit Breaker.

Should the motor become overloaded the lever immediately flies back, inserting the resistance of the Rheostat and then opening the circuit WITHOUT SPARK. No carbons for the final break are therefore necessary.

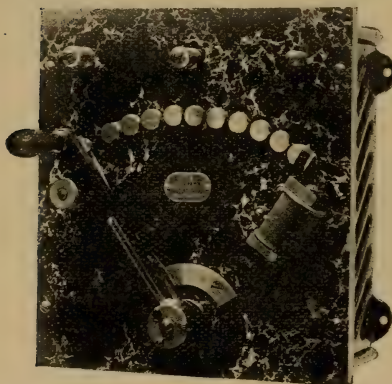
The combined device not only protects the motor from Short Circuit, Ground and Overload, but also protects the motor from interrupted current and open field circuit.



Motor Starting Box with Automatic Release.  
400 Ampere Front.



Motor Starting Box with Magnetic Release.  
20 Ampere Front.



Motor Starting Box with Magnetic Release.  
40 Ampere Front.

## Cutler-Hammer Rheostats.—Continued.

### Motor Starting Boxes.—Continued.

#### With Automatic Release and Circuit Breaker.

H. P.	VOLTS.			H. P.	VOLTS.		
	125	240	500		125	240	500
$\frac{1}{2}$ to 1	\$32.00	\$32.00	\$32.00	25	\$85.00	\$75.00	\$75.00
2	34.00	34.00	34.00	30	95.00	85.00	85.00
3	36.00	36.00	26.00	35	105.00	92.00	92.00
5	47.00	47.00	47.00	40	120.00	100.00	100.00
$7\frac{1}{2}$	55.00	50.00	50.00	50	140.00	120.00	120.00
10	58.00	53.00	53.00	75	225.00	190.00	175.00
15	68.00	60.00	60.00	100	300.00	260.00	225.00
20	75.00	66.00	66.00	150	400.00	350.00	320.00
				200	500.00	450.00	400.00

## Motor Starting Boxes.

### With Magnetic Release.

Absolutely fire-proof; built entirely of marbleized slate, metal and asbestos.

Impossible to leave the resistance in circuit and burn out the box.

Prevents injury to motor when supply of current is cut off and then suddenly turned on again.

Prevents injury to armature and commutator due to an open field circuit.

Simple, durable and reliable. Only one moving part. Endorsed by the Board of Fire Underwriters.

When ordering give horse-power, voltage and make of motor.

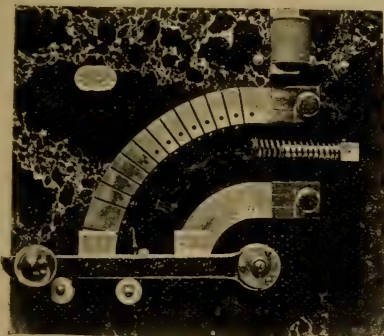
H. P.	VOLTS.			H. P.	VOLTS.		
	125	240	500		125	240	500
$\frac{1}{2}$ to $\frac{1}{4}$	\$16.00	\$16.00	\$16.00	25	\$64.40	\$56.00	\$56.00
$\frac{1}{4}$ to 1	22.00	22.00	22.00	30	73.60	64.00	64.00
2	24.00	24.00	24.00	35	81.80	72.00	72.00
3	26.00	26.00	26.00	40	92.00	80.00	80.00
5	32.00	32.00	32.00	50	115.00	100.00	100.00
$7\frac{1}{2}$	40.25	35.00	35.00	75	190.00	165.00	150.00
10	43.70	38.00	38.00	100	250.00	230.00	200.00
15	50.60	44.00	44.00	150	325.00	315.00	275.00
20	57.50	50.00	50.00	200	420.00	400.00	350.00

## SPECIAL RHEOSTATS.

In ordering Special Rheostats the following information is necessary:

- 1st. The purpose for which the Rheostat is to be used.
- 2nd. The maximum current to be carried.
- 3rd. The maximum time the current will be flowing through the resistance of the Rheostat.
- 4th. The minimum current to be used.
- 5th. The total resistance to be required.
- 6th. The voltage of the current.
- 7th. The horse power or K. W. of the motor or dynamo used.
- 8th. The number of steps or divisions necessary on the front of Rheostat.

When provided with the exact knowledge of just what the Rheostat is expected to do, many of the above points can be determined. By giving explicit and full information prompt results can be obtained.



Motor Starting Box, with Automatic Release.  
300 Ampere Front.

### Cutler-Hammer Rheostats.—*Continued.*

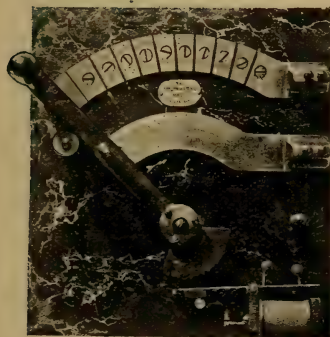
#### COMBINED MOTOR STARTING BOX AND SPEED REGULATOR.

##### Automatic Release from Every Point.

Our Motor Speed Regulators, with Automatic Release, combine in one device all the advantages and protections afforded by our Automatic Release Motor Starters, in addition to the great convenience of a Speed Regulator.

The Automatic Release acts from every contact point, firmly locking the arm in position at any desired speed, and upon failure of the current, or the opening of the field circuit, automatically releases the arm, permitting it to return to the full off position.

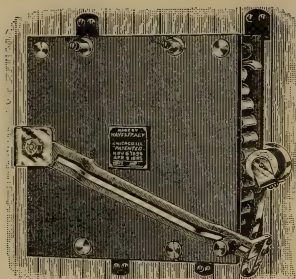
In ordering give Horse-power, Voltage, Normal Speed, and make of Motor. Also, lowest speed desired and kind of machinery attached to the motor. Prices are based on 50 per cent. reduction of speed at full load.



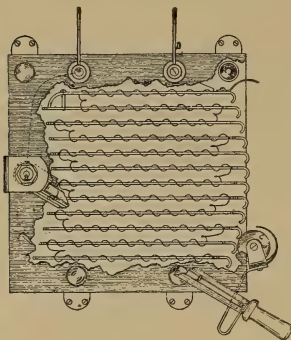
Combined Motor Starting Box and  
Speed Regulator.

H. P.	120 VOLTS.		220 VOLTS.		500 VOLTS.	
	With Autom'tic Release.	Without Autom'tic Release.	With Autom'tic Release.	Without Autom'tic Release.	With Autom'tic Release.	Without Autom'tic Release.
1/4	\$ 22.00	\$ 15.00	\$ 22.00	\$ 15.00	\$ 22.00	\$ 15.00
1/2	28.00	18.00	28.00	18.00	28.00	18.00
1	35.00	22.00	35.00	22.00	35.00	22.00
2	42.00	30.00	42.00	30.00	42.00	30.00
3	52.00	40.00	52.00	40.00	52.00	40.00
5	67.00	55.00	67.00	55.00	67.00	55.00
7 1/2	85.00	70.00	85.00	70.00	85.00	70.00
10	100.00	85.00	100.00	85.00	100.00	85.00
15	125.00	110.00	120.00	105.00	120.00	105.00
20	155.00	135.00	145.00	125.00	145.00	125.00
25	185.00	160.00	175.00	150.00	175.00	150.00
30	215.00	185.00	205.00	180.00	200.00	175.00
35	250.00	210.00	240.00	205.00	235.00	200.00
40	285.00	245.00	285.00	235.00	275.00	225.00
50	360.00	300.00	340.00	290.00	325.00	275.00
75	500.00	435.00	450.00	400.00	425.00	375.00

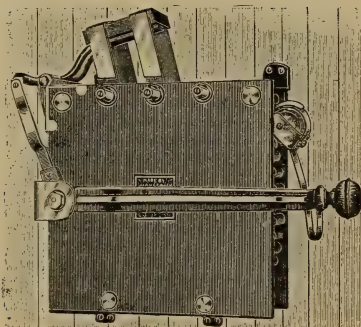




No. 20525.



No. 20526.



No. 20527.

## H.-T. Motor Starting and Motor Speed Regulating Rheostat.

This Rheostat is incombustible and electrically fire proof; heavy slate back front, with thoroughly insulated steel feet; endorsed by City Authorities and Board of Underwriters.

This Rheostat is absolute in release, operated by gravity instead of springs, and is sure to hold in full-on position not depending on spool magnets.

The only Rheostat having magnetic rolling contacts of iron. This Rheostat is entirely in resistance circuit, thus insuring full strength in the fields of motor.

Illustration No. 20526 shows front of Rheostat broken away, exposing edges of iron plates around which galvanized iron resistance wire is wound; the front end of each plate is bent to make a broader step for the rolling contact. (A series of iron washers loosely mounted in a brass pin, making a multiplicity of contacts.) The insulation used on this resistance is fire-proof and quite porous, the entire construction being such as to facilitate perfect ventilation.

Current entering at binding post A passes through Brass Arm B and Rolling Contact C—through the resistance, and over wire D to Motor Armature.

In full-off position, Arm B hangs perpendicular. In illustration, contact roller has passed over first two steps—cutting out that portion of the resistance. Motor starts slowly, and gradually increases in speed as each step is passed, until roller reaches the top step, where it is held by magnetism, resistance being all cut out and motor at full speed.

When current is broken rolling contact is instantly released and arm falls of its own weight to full-off position.

Motor speed Regulating Rheostats are magnetic at each step. Rolling contact may be left at any speed desired, release being automatic from any point in case of interrupted current.

H. P.	VOLTS			H. P.	VOLTS.	
	110	220	500		220	500
1	\$22.00	\$22.00	\$22.00	30	\$64.00	\$64.00
2	24.00	24.00	24.00	35	72.00	72.00
3	26.00	26.00	26.00	40	80.00	80.00
5	32.00	32.00	32.00	50	100.00	100.00
7½		35.00	35.00	75	165.00	165.00
10		38.00	38.00	100	230.00	230.00
15		44.00	44.00	150	315.00	315.00
20		50.00	50.00	200	400.00	400.00
25		56.00	56.00			

## DOUBLE POLE SWITCH.

When desired, this switch is attached to the Rheostat—which moves automatically with the contact arm, throwing the fields in circuit before the armature and cutting armature out ahead of the fields.

Switch opens automatically by falling of the arm, leaving no connection with the mains; hence no danger from grounds, lightning, etc.

Switch, each, extra ..... \$3.75



## Carpenter Enamel Rheostats.

### Small Motor Regulating Rheostats, 1-12 to 1-6 H. P.

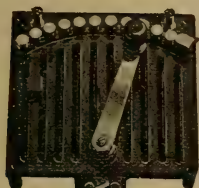


No. 20416.

Code Word.	List No.	Size of Motor in H. P.	Volts.	Capacity in Amp. Continuously.	Ohms.	No. of Steps.	Size Ins.	List Price Each.
<i>Rubelite</i>	20416	$\frac{1}{3}$	115	1	110	4	5	\$ 3.70
<i>Rubeola</i>	20417	$\frac{1}{6}$	115	1.5	75	4	5	3.70
<i>Rubescence</i>	20418	$\frac{1}{6}$	115	2	55	4	5	3.70
<i>Rubescence</i>	20419	$\frac{1}{6}$	230	.5	300	4	5	4.50
<i>Rubicon</i>	20420	$\frac{1}{6}$	230	.75	220	4	5	4.50

### Motor Regulating Rheostats.

These Rheostats are intended for regulating the speed of motors down to one-half of the full speed under full torque, and will stand the "maximum amperes" continuously with the full switch lever on any contact.



No. 20421.

Code Word.	List No.	H. P. of Motor.	Volts.	Maximum Amperes.	
<i>Rubicelle</i>	20421	$\frac{1}{4}$	125	3.	\$ 9.00
<i>Rubicund</i>	20422	$\frac{1}{2}$	"	6.	11.00
<i>Rubidium</i>	20423	1	"	10.	14.00
<i>Rubific</i>	20424	2	"	16.	22.00
<i>Rubiforme</i>	20425	3	"	24.	24.00
<i>Rubify</i>	20426	5	"	40.	46.00
<i>Rubiginous</i>	20427	$7\frac{1}{2}$	"	60.	75.00
<i>Rubigo</i>	20428	10	"	80.	100.00
<i>Rubine</i>	20429	15	"	120.	135.00
<i>Rubrous</i>	20430	20	"	150.	180.00
<i>Rubric</i>	20431	25	"	190.	215.00
<i>Rubrical</i>	20432	30	"	230.	250.00
<i>Rubricate</i>	20433	$\frac{1}{4}$	250	1.5	9.00
<i>Rubrician</i>	20434	$\frac{1}{2}$	"	3.	11.00
<i>Rubricist</i>	20435	1	"	5.	14.00
<i>Rubstone</i>	20436	2	"	8.	22.00
<i>Rubus</i>	20437	3	"	12.	24.00
<i>Ruby</i>	20438	5	"	20.	46.00
<i>Rubytail</i>	20439	$7\frac{1}{2}$	"	30.	63.00
<i>Rubywood</i>	20440	10	"	40.	82.00
<i>Ruche</i>	20441	15	"	60.	135.00
<i>Ruck</i>	20442	20	"	75.	169.00
<i>Ructation</i>	20443	25	"	95.	203.00
<i>Rud</i>	20444	30	"	115.	237.00
<i>Rudder</i>	20445	$\frac{1}{4}$	500	.8	10.00
<i>Ruddercoat</i>	20446	$\frac{1}{2}$	"	1.5	12.00
<i>Rudderhead</i>	20447	1	"	2.5	15.00
<i>Ruddernote</i>	20448	2	"	4.	23.00
<i>Rudderless</i>	20449	3	"	6.	25.00
<i>Ruddernail</i>	20450	5	"	10.	47.00
<i>Rudderpants</i>	20451	$7\frac{1}{2}$	"	15.	64.00
<i>Rudderstock</i>	20452	10	"	20.	83.00
<i>Ruddied</i>	20453	15	"	30.	117.00
<i>Ruddle</i>	20454	20	"	38.	170.00
<i>Ruddlenum</i>	20455	25	"	48.	204.00
<i>Ruddock</i>	20456	30	"	58.	238.00

## Carpenter Enamel Rheostats.—(Continued.)

## Motor Starting Rheostats.

With Automatic Release. Protecting Motor in case of Failure of Current from any cause.



No. 20457.

Code Word.	List No.	H. P. of Motor.	Volts.	Max. Amp. for 15 Sec.	List Price. Each.
<i>Ruddy</i>	20457	$\frac{1}{2}$	125	4	12.50
<i>Rude</i>	20458	1	"	8	12.50
<i>Rudely</i>	20459	2	"	16	14.00
<i>Rudeness</i>	20460	3	"	24	18.00
<i>Rudature</i>	20461	5	"	40	22.00
<i>Rudery</i>	20462	$7\frac{1}{2}$	"	60	28.00
<i>Ruderation</i>	20463	10	"	80	32.75
<i>Rudeshy</i>	20464	$\frac{1}{4}$	250	2	13.00
<i>Rudiment</i>	20465	1	"	4	13.00
<i>Rudish</i>	20466	2	"	8	14.50
<i>Rudity</i>	20467	3	"	12	18.50
<i>Rudolphine</i>	20468	5	"	20	22.50
<i>Rue</i>	20469	$7\frac{1}{2}$	"	30	28.50
<i>Rueful</i>	20470	10	"	40	28.50
<i>Ruefully</i>	20471	15	"	60	42.00
<i>Ruelle</i>	20472	20	"	80	47.00
<i>Rufescent</i>	20473	$\frac{1}{2}$	500	1	14.50
<i>Ruff</i>	20474	1	"	2	14.50
<i>Ruffal</i>	20475	2	"	4	17.50
<i>Ruffian</i>	20476	3	"	6	20.50
<i>Ruffianism</i>	20477	5	"	10	24.00
<i>Ruffinly</i>	20478	$7\frac{1}{2}$	"	15	30.00
<i>Ruffinous</i>	20479	10	"	20	33.50
<i>Ruffle</i>	20480	15	"	30	43.50
<i>Rufflement</i>	20481	20	"	40	46.00

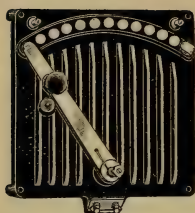
## Spring Starters—Motor Starting Rheostats.

## Provided with Safety Spring Switch.

Our Spring Starting Rheostats have many features which render them practically indestructible if handled properly. It is impossible to leave the contact lever upon an intermediate contact because of the spring. The lever can only remain in the position of all resistance in or all resistance out.

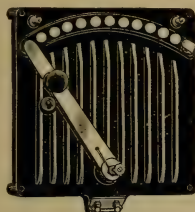
These Rheostats, in their present form, have been used by many of the leading motor manufacturers for a long time.

A complete line of these Rheostats is always carried in stock.



No. 20482.

Code Word.	List No.	H. P. of Motor.	Volts.	Max. Amp. for 15 Sec.	List Price. Each.
<i>Ruffleless</i>	20482	$\frac{1}{2}$	125	4	9.00
<i>Ruffer</i>	20483	1	"	8	12.00
<i>Rufous</i>	20484	2	"	16	15.00
<i>Ruft</i>	20485	3	"	24	15.00
<i>Rafterhood</i>	20486	5	"	40	20.00
<i>Rug</i>	20487	$7\frac{1}{2}$	"	60	30.00
<i>Ringate</i>	20488	10	"	80	55.00
<i>Rugged</i>	20489	15	"	120	55.00
<i>Ruggedly</i>	20490	20	"	150	80.00
<i>Ruggedness</i>	20491	25	"	190	90.00
<i>Rugging</i>	20492	30	"	240	90.00

**Carpenter Enamel Rheostats.—(Continued.)****Spring Starters.—(Continued.)****Motor Starting Rheostats.****Provided with Safety Spring Switch.**

No. 20493.

Code Word.	List No.	H. P. of Motor.	Volts.	Max. Amp. for 15 Sec.	List Price. Each.
<i>Ruggoon</i>	20493	$\frac{1}{2}$	250	2	9.00
<i>Ruggooned</i>	20494	1	"	4	12.00
<i>Ruggy</i>	20495	2	"	8	15.00
<i>Rugin</i>	20496	3	"	12	15.00
<i>Rugine</i>	20497	5	"	20	20.00
<i>Rugose</i>	20498	$7\frac{1}{2}$	"	30	30.00
<i>Rugulose</i>	20499	10	"	40	30.00
<i>Ruin</i>	20500	15	"	60	36.00
<i>Ruinable</i>	20501	20	"	75	75.00
<i>Ruinute</i>	20502	25	"	95	85.00
<i>Ruination</i>	20503	30	"	115	85.00
<i>Ruiner</i>	20504	$\frac{1}{2}$	500	1	10.00
<i>Ruinform</i>	20505	1	"	2	13.00
<i>Ruinous</i>	20506	2	"	4	16.00
<i>Ruinously</i>	20507	3	"	6	16.00
<i>Ruinousness</i>	20508	5	"	10	21.00
<i>Rukh</i>	20509	$7\frac{1}{2}$	"	15	31.00
<i>Rulable</i>	20510	10	"	20	31.00
<i>Rule</i>	20511	15	"	30	37.00
<i>Ruleless</i>	20512	20	"	38	56.00
<i>Ruler</i>	20513	25	"	48	56.00
<i>Ruling</i>	20514	30	"	58	56.00

**Leonard Universal Automatic Rheostat.**

This Rheostat is guaranteed to protect a motor absolutely against injuriously large currents.

The circuit of the motor, both as to field and armature is automatically opened by a quick acting, non-arcing snap switch under any of the following conditions:

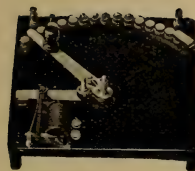
1st. When the supply fails, as when the Central Station Fuses blow, or the automatic circuit breakers at the Central Station open.

2d. When the operator in starting up the motor, cuts out the Rheostat resistance too rapidly, and hence allows too large a current to pass to the motor.

3d. When an overload is placed upon the motor from any cause, such as a hot box, an excessive load to be driven, etc.

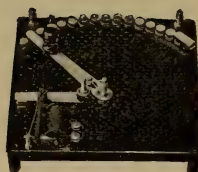
4th. When the motor receives too large a current from some source of current in series or in multiple with it, such as a storage battery.

In fact, the circuit is opened, when from any cause the current falls to zero, or exceeds a certain pre-determined maximum amount.



No. 20515.

Code Word.	List No.	H. P. of Motor.	Volts.	Max. Amp. for 15 Sec.	List Price. Each.
<i>Rulingly</i>	20515	$\frac{1}{2}$	125	4	24.00
<i>Ruliches</i>	20516	1	"	8	24.00
<i>Ruly</i>	20517	2	"	16	24.00
<i>Run</i>	20518	3	"	24	26.00
<i>Rumble</i>	20519	5	"	40	32.00
<i>Rumbler</i>	20520	$7\frac{1}{2}$	"	60	35.00
<i>Rumblingly</i>	20521	10	"	80	35.00
<i>Rumbud</i>	20522	15	"	120	72.00
<i>Rümen</i>	20523	20	"	160	72.00
<i>Rumex</i>	20524	30	"	240	110.00

**Carpenter Enamel Rheostats.—(Continued.)****Leonard Universal Automatic Rheostat.—(Continued.)**

No. 20528.

Code Word.	List No.	H. P. of Motor.	Volts.	Max. Amp. for 15 Sec.	List Price Each.
<i>Ruminal</i>	20528	$\frac{1}{2}$	250	2	24.00
<i>Ruminant</i>	20529	1	"	4	24.00
<i>Ruminant</i>	20530	2	"	8	24.00
<i>Rumination</i>	20531	3	"	12	26.00
<i>Ruminator</i>	20532	5	"	20	32.00
<i>Ruminsch</i>	20533	$7\frac{1}{2}$	"	30	35.00
<i>Rumkin</i>	20534	10	"	40	35.00
<i>Rummage</i>	20535	15	"	60	48.00
<i>Rummager</i>	20536	20	"	80	48.00
<i>Rummer</i>	20537	30	"	120	88.00
<i>Rummy</i>	20538	40	"	160	105.00
<i>Rumyay</i>	20539	$\frac{1}{2}$	500	1	24.00
<i>Rumuous</i>	20540	1	"	2	24.00
<i>Rumorer</i>	20541	2	"	4	24.00
<i>Rumorous</i>	20542	3	"	6	26.00
<i>Rump</i>	20543	5	"	10	32.00
<i>Rumper</i>	20544	7	"	15	35.00
<i>Rumpled</i>	20545	10	"	20	35.00
<i>Rumple</i>	20546	15	"	30	48.00
<i>Rumpless</i>	20547	20	"	40	48.00
<i>Rumpus</i>	20548	30	"	60	74.00
<i>Rumpstak</i>	20549	40	"	80	90.00
<i>Rumsizzle</i>	20550	50	"	100	110.00



No. 20551.

**Reversing Controllers.****For Reversing Direction of Rotation and for Controlling Speed of Motors.**

One of the most difficult problems in connection with electric motors, is to secure a perfect device for operating a motor at variable speeds at will, and reversing its direction of rotation.

We handle a full line of reversing Rheostats for motors, from  $\frac{1}{2}$  H. P. to 100 H. P., and of any voltage. Also a complete line of field reversing Rheostats. We make a specialty of such Rheostats for traveling crane service and elevator service, and can ordinarily make prompt shipment from stock for usual sizes.

These controllers are provided with quick break devices, in connection with controlling switch, so that when bringing the motor to rest from either direction of rotation the arc is broken instantly.

The Rheostat contacts are so designed that, should they become worn or burned, they can be removed or replaced without disconnecting any other part.

Code Word.	List No.	H. P. of Motor.	Volts.	Max. Amp. for 15 Sec.	List Price Each.
<i>Run</i>	20551	$2\frac{1}{2}$	125	20	100.00
<i>Runagate</i>	20552	5	"	40	120.00
<i>Runaway</i>	20553	$7\frac{1}{2}$	"	60	142.00
<i>Runcation</i>	20554	10	"	80	250.00
<i>Runciate</i>	20555	15	"	120	300.00
<i>Rundel</i>	20556	20	"	160	350.00
<i>Rundlet</i>	20557	25	"	200	390.00

## Carpenter Enamel Rheostats.—(Continued.)

## Reversing Controllers.—(Continued.)



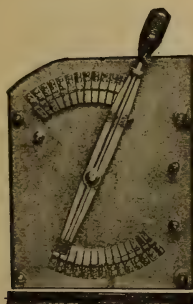
Code Word	List No.	H. P. of Motor.	Volts.	Max. Amp. for 15 Sec.	List Price. Each.
<i>Rune</i>	20558	2½	250	10	\$100.00
<i>Runcer</i>	20559	5	"	20	120.00
<i>Rung</i>	20560	7½	"	30	142.00
<i>Runghead</i>	20561	10	"	40	165.00
<i>Runic</i>	20562	15	"	60	210.00
<i>Rundlet</i>	20563	20	"	80	350.00
<i>Rundel</i>	20564	25	"	100	390.00
<i>Runner</i>	20565	2½	500	5	110.00
<i>Runnert</i>	20566	5	"	10	130.00
<i>Running</i>	20567	7½	"	15	150.00
<i>Runnion</i>	20568	10	"	20	175.00
<i>Runt</i>	20569	15	"	30	220.00
<i>Rupe</i>	20570	20	"	40	275.00
<i>Rupellary</i>	20571	25	"	50	315.00



## Ventilating-Fan Speed Controllers.

## Reducing Speed of Fan and Series Wound Motor to Half Full Speed.

Code Word	List No.	Max. Amp. 1st Step.	Volts.	Diam. of Fan in ins.	Size of Rheostat.	List Price. Each.
<i>Rupertadrop</i>	20572	1.5	125	18	8	14.00
<i>Rupicola</i>	20573	2.5	"	24	8	14.00
<i>Rupion</i>	20574	5.	"	30	12	24.00
<i>Ruptuary</i>	20575	8.	"	36	15	32.00
<i>Rupture</i>	20576	16.	"	42	8 x 17 x 20	50.00
<i>Rupturewort</i>	20577	20.	"	48	10 x 17 x 20	60.00
<i>Rural</i>	20578	50.	"	60	13 x 17 x 20	85.00
<i>Ruralism</i>	20579	.75	250	18	8	14.00
<i>Ruralist</i>	20580	1.25	"	24	8	14.00
<i>Rurality</i>	20581	2.5	"	30	12	24.00
<i>Ruralize</i>	20582	4.	"	36	15	32.00
<i>Rurally</i>	20583	8.	"	42	8 x 17 x 20	50.00
<i>Ruralness</i>	20584	10.	"	48	10 x 17 x 20	60.00
<i>Ruricalist</i>	20585	25.	"	60	13 x 17 x 20	85.00
<i>Rurigenous</i>	20586	.375	500	18	8	14.00
<i>Ruse</i>	20587	.625	"	24	8	14.00
<i>Rush</i>	20588	1.25	"	30	12	24.00
<i>Rushbearing</i>	20589	2.	"	36	15	32.00
<i>Rushbuckle</i>	20590	4	"	42	8 x 17 x 20	50.00
<i>Rushcandle</i>	20591	5.	"	48	10 x 17 x 20	60.00
<i>Rushed</i>	20592	12.5.	"	60	13 x 17 x 20	85.00







No. 20629.



No. 20637.



No. 20639.



No. 20641.

## Carpenter Enamel Rheostats.—(Continued.)

## 250 Volt Round Type, Field Rheostats.

For Front of Board.

Fig. 8, 9 and 10.

Code Word.	List No.	Max. Amp. 1st Step.	Ohms of Field to which Rheostat is well suited.	Ohms of Rheostat	No. of Steps.	Ampere Capacity of Last Step.	Diam. ins.	List Price. Each.
<i>Ruthful</i>	20629	1	230	300	44	.454	12	\$18.50
<i>Ruthfully</i>	20630	1.25	200	240.	44	.568	12	18.50
<i>Ruthless</i>	20631	1.5	166	200.	44	.682	12	18.50
<i>Ruthless</i>	20632	2.	125	150.	44	.909	12	18.50
<i>Rutil</i>	20633	2.5	100	120.	44	1.136	12	18.50
<i>Rutilant</i>	20634	3.	83	100.	44	1.366	12	18.50
<i>Ruthote</i>	20635	4	62	75.	60	1.82	15	24.50
<i>Rutile</i>	20636	5	50	60.	60	2.27	15	24.50
<i>Rutter</i>	20637	6.25	40	48.5	60	2.84	15	46.00
<i>Rutterkin</i>	20638	8.	31	37	60	3.65	15	46.00
<i>Ruttier</i>	20639	10.	25	30.	60	4.54	15	68.00
<i>Rutish</i>	20640	12.5	20	24.	60	5.7	15	68.00

For Back of Board.

Code Word.	List No.	Max. Amp. 1st Step.	Ohms of Field to which Rheostat is well suited.	Ohms of Rheostat	No. of Steps.	Ampere Capacity of Last Step.	Diam. ins.	List Price. Each.
<i>Ruthfulness</i>	20641	1.	250	300	44	.454	12	\$31.50
<i>Rutile</i>	20642	1.25	200	240.	44	.568	12	31.50
<i>Rutty</i>	20643	1.5	166	200.	44	.682	12	31.50
<i>Ryol</i>	20644	2.	125	150.	44	.909	12	81.50
<i>Ryder</i>	20645	2.5	100	120.	44	1.136	12	31.50
<i>Rye</i>	20646	3	83	100.	44	1.366	12	31.50
<i>Ryegrass</i>	20647	4.	62	75.	60	1.82	15	37.00
<i>Ryachops</i>	20648	5.	50	60.	60	2.27	15	37.00
<i>Rynd</i>	20649	6.25	40	48.	60	2.84	15	58.50
<i>Rynd</i>	20650	8.	31	37.5	60	3.65	15	58.50
<i>Ryth</i>	20651	10.	25	30.	60	4.54	15	78.00
<i>Rytmu</i>	20652	12.5	20	24.	60	5.7	15	78.00

## 500 Volt Round Type, Field Rheostats.

Front of Board.

Code Word.	List No.	Max. Amp. 1st Step.	Ohms of Field to which Rheostat is well suited.	Ohms of Rheostat	No. of Steps.	Ampere Capacity of Last Step.	Diam. ins.	List Price. Each.
<i>Saduh</i>	20653	1.25	400	480	44	.568	12	\$18.50
<i>Saba</i>	20654	1.5	333	403	44	.682	12	18.50
<i>Sabadilla</i>	20655	2.	250	300	60	.909	15	24.50
<i>Sabean</i>	20656	2.5	200	240	60	1.14	15	24.50
<i>Sabeanism</i>	20657	3.	166	200	60	1.36	15	46.00
<i>Sabianism</i>	20658	4.	125	150	60	1.82	15	46.00
<i>Sabal</i>	20659	5.	100	120	60	2.27	15	68.00
<i>Sabouth</i>	20660	6.25	80	96	60	2.84	15	68.00



No. 20593.

## Carpenter Enamel Rheostats.—(Continued.)

## 125 Volt Round Type, Field Rheostats.

## For Front of Board.

Code Word.	List No.	Max. Amp. 1st Step.	Ohms of Field to which Rheostat is well suited.	Ohms of Rheostat	No. of Steps.	Ampere Capacity of Last Step.	Diam. ins.	List Price, Each.
<i>Rusher</i>	20593	.5	250.	300.	24	.227	8	\$ 12.50
<i>Rushgrass</i>	20594	.62	200.	240.	24	.284	8	12.50
<i>Rushiness</i>	20595	.75	166.	200.	24	.341	8	12.50
<i>Rushingly</i>	20596	1.	125.	150.	24	.454	8	12.50
<i>Rushlight</i>	20597	1.25	100.	120.	24	.568	8	12.50
<i>Rushlike</i>	20598	1.5	83.	100.	24	.683	8	12.50
<i>Rushring</i>	20599	2.	62.5	75.	24	.91	8	12.50
<i>Rushy</i>	20600	2.5	50.	60.	24	1.13	8	12.50
<i>Rusk</i>	20601	3.	42.	50.	24	1.35	8	12.50
<i>Rusma</i>	20602	4.	31.	37.5	33	1.82	10	14.25
<i>Russ</i>	20603	5.	25.	30.	44	2.27	12	18.50
<i>Russett</i>	20604	6.	21.	25.	44	2.7	12	18.50
<i>Russetting</i>	20605	8.	15.6	18.75	60	3.64	15	24.50
<i>Russety</i>	20606	10.	12.5	15.	60	3.33	15	24.50
<i>Russideather</i>	20607	12.5	10.	12.	60	5.7	15	46.00
<i>Russia</i>	20608	16.	7.8	9.3	60	7.3	15	46.00
<i>Russian</i>	20609	20.	6.2	7.5	60	9.1	15	68.00
<i>Rust</i>	20610	25.	5.	6.	60	11.36	15	68.00



No. 20607.



No. 20609.

## For Back of Board.

Code Word.	List No.	Max. Amp. 1st Step.	Ohms of Field to which Rheostat is well suited.	Ohms of Rheostat	No. of Steps.	Ampere Capacity of Last Step.	Diam. ins.	List Price, Each.
<i>Rustful</i>	20611	.5	250.	300.	24	.227	8	\$ 25.00
<i>Rustic</i>	20612	.62	200.	240.	24	.284	8	25.00
<i>Rustical</i>	20613	.75	166.	200.	24	.341	8	25.00
<i>Rustically</i>	20614	1.	125.	150.	24	.454	8	25.00
<i>Rusticote</i>	20615	1.2	100.	120.	24	.568	8	25.00
<i>Rustiction</i>	20616	1.5	83.	100.	24	.683	8	25.00
<i>Rusticity</i>	20617	2.	62.5	75.	24	.91	8	25.00
<i>Rusting</i>	20618	2.5	50.	60.	24	1.13	8	25.00
<i>Rustiness</i>	20619	3.	42.	50.	24	1.35	8	25.00
<i>Rustjoint</i>	20620	4.	31.	37.5	33	1.82	10	27.50
<i>Rustle</i>	20621	5.	25.	30.	44	2.27	12	31.50
<i>Rustler</i>	20622	6.	21.	25.	44	2.7	12	31.50
<i>Rusty</i>	20623	8.	15.6	18.75	60	3.64	15	37.00
<i>Rut</i>	20624	10.	12.5	15.	60	3.33	15	37.00
<i>Rutabaga</i>	20625	12.5	10.	12.	60	5.7	15	58.50
<i>Rutaceous</i>	20626	16.	7.8	9.3	60	7.3	15	58.50
<i>Ruth</i>	20627	20.	6.2	7.5	60	9.1	15	78.00
<i>Ruthentum</i>	20628	25.	5.	6.	60	11.36	15	78.00



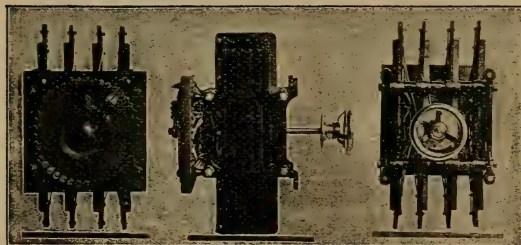
No. 20611.

## Carpenter Enamel Rheostats.—(Continued.)

## 500 Volt Round Type, Field Rheostats.

## For Back of Board.

Code Word.	List No.	Max. Amp. 1st Step.	Ohms of Field to which Rheostat is well suited.	Ohms of Rheostat	No. of Steps.	Ampere Capacity of Last Step.	Diam. ins.	List Price, Each.
<i>Subasia</i>	20661	1.25	400	480	44	.568	12	\$31.50
<i>Subbat</i>	20662	1.5	333	400	44	.682	12	31.50
<i>Sabbatarium</i>	20663	2.	250	300	60	.909	15	37.00
<i>Subatia</i>	20664	2.5	200	240	60	1.14	15	37.00
<i>Sabbatic</i>	20665	3.	166	200	60	1.36	15	58.50
<i>Sabbatium</i>	20666	4.	125	150	60	1.82	15	58.50
<i>Sabbatous</i>	20667	5.	100	120	60	2.25	15	78.00
<i>Sabbine</i>	20668	6.25	80	96	60	2.84	15	78.00



## Field Rheostats of Large Capacity.

For Railway and Large Incandescent Lighting Generators.

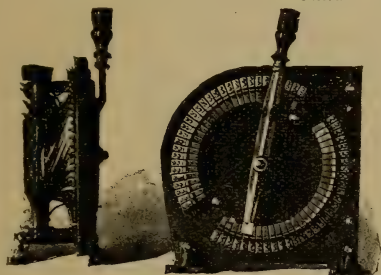
## No. 20669 to 20704.

Code Word.	List No.	Max. Amp. 1st Step.	Ohms of Field to which Rheostat is well suited.	Ohms of Rheostat	No. of Steps.	Ampere Capacity of Last Step.	Volts.	List Price, Each.
<i>Subeu</i>	20669	8.	18.7	22.5	80	3.6	150	\$83.00
<i>Subeism</i>	20670	10.	15.	18.	80	4.5	"	83.00
<i>Subella</i>	20671	12.	12.5	15.	80	5.4	"	97.00
<i>Subelloran</i>	20672	16.	9.4	11.2	80	7.2	"	97.00
<i>Subellian</i>	20673	20.	7.5	9.	80	9.	"	97.00
<i>Suber</i>	20674	24.	6.2	7.5	80	10.8	"	112.00
<i>Subian</i>	20675	32.	4.7	5.6	80	14.4	"	175.00
<i>Subianism</i>	20676	40.	3.7	4.5	80	18.	"	175.00
<i>Subine</i>	20677	48.	3.1	3.8	80	21.6	"	194.00
<i>Suble</i>	20678	64.	2.3	2.8	80	28.8	"	232.00
<i>Sublenouse</i>	20679	80.	1.9	2.2	80	36.	"	251.00
<i>Sublire</i>	20680	100.	1.5	1.8	80	45.	"	289.00
<i>Subot</i>	20681	128.	1.2	1.4	80	57.6	"	365.00
<i>Subulous</i>	20682	4.	75.	90.	80	1.8	300	83.00
<i>Sub</i>	20683	5.	60.	72.	90	2.2	"	83.00
<i>Subar</i>	20684	6.	50.	60.	80	2.7	"	97.00
<i>Subeade</i>	20685	8.	37.5	45.	80	3.6	"	97.00
<i>Subeate</i>	20686	10.	30.	36.	80	4.5	"	97.00
<i>Subcharic</i>	20687	12.	25.	30.	80	5.5	"	112.00
<i>Subcharifous</i>	20688	16.	18.7	22.5	80	7.2	"	131.00
<i>Subcharify</i>	20689	20.	15.	18.	80	9.0	"	131.00
<i>Subcharilla</i>	20690	24.	12.5	15.	80	11.0	"	194.00
<i>Subcharimety</i>	20691	32.	9.4	11.2	80	14.4	"	232.00

## Carpenter Enamel Rheostats.—(Continued).

For Railway Generators.

Code Word.	List No.	Max. Amp. 1st Step.	Ohms of Field to which Rheostat is well suited.	Ohms of Rheostat	No. of Steps	Ampere Capacity of Last Step.	Volts.	List Price. Each.
<i>Saccharine</i>	20692	2.	300.	360.	80	.91	600	\$83.00
<i>Saccharize</i>	20693	2.5	240.	288.	80	1.13	"	83.00
<i>Saccharoid</i>	20694	3.	200.	240.	80	1.36	"	97.00
<i>Saccharoidal</i>	20695	4.	150.	180.	80	1.81	"	97.00
<i>Saccharimeter</i>	20696	5.	120.	144.	80	2.27	"	97.00
<i>Saccharutin</i>	20697	6.	100.	120.	80	2.72	"	112.00
<i>Saccholactate</i>	20698	8.	75.	90.	80	3.63	"	130.00
<i>Saccholate</i>	20699	10.	60.	72.	80	4.54	"	130.00
<i>Sacchylate</i>	20700	12.	50.	60.	80	5.45	"	149.00
<i>Sacchiform</i>	20701	16.	37.5	45.	80	7.26	"	187.00
<i>Sacconys</i>	20702	20	30.	36.	80	9.09	"	206.00
<i>Saccular</i>	20703	25.	24.	28.8	80	11.36	"	259.00
<i>Saccule</i>	20704	32.	18.75	22.5	80	14.54	"	316.00



No. 20705.

## Theatre Dimmers.

It is absolutely safe as regards fire risk, is entirely self-contained, and is shipped complete from factory ready to set up on the stage and connect the two circuit wires to it.

Code Word.	List No.	No. of Steps.	Max. Amp. 1st Step.	Amp. Capacity of Last Step.	No. of 16 C.P. 100 W. Lamps controlled.	Dimensions (over all) in inches.	Approx. Wt. in lbs.	Price List. Each.
						Lgth. Width Hght.		
<i>Saccellum</i>	20705	56	15	3	12-30	7 3/4 16 3/8 20 1/2	65	\$50.00
<i>Saccerdotal</i>	20706	56	37	5	25-75	7 3/4 16 3/8 20 1/2	65	60.00
<i>Sacbet</i>	20707	56	62	10	50-125	10 16 3/8 20 1/2	95	85.00
<i>Sacchem</i>	20708	56	75	15	75-150	13 1/4 16 3/8 20 1/2	125	100.00
<i>Sacchemdom</i>	20709	56	100	20	100-200	16 1/2 16 3/8 20 1/2	155	115.00
<i>Sacchemship</i>	20710	56	150	30	150-300	23 16 3/8 20 1/2	215	150.00

## With Interlocking Switches. (For 115 Volt Lamps.)

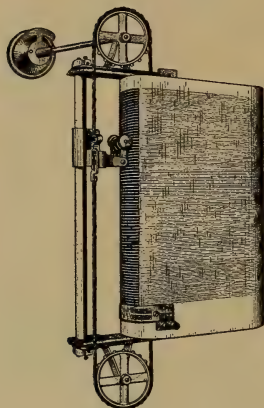
<i>Sacbet</i>	20711	56	15	3	12-30	6 18 45	65	115.00
<i>Sacchevornl</i>	20712	56	37	5	25-75	6 18 45	65	115.00
<i>Sack</i>	20713	56	62	10	50-125	7 18 45	95	135.00
<i>Sacknge</i>	20714	56	75	15	75-150	9 1/2 18 45	125	155.00
<i>Sacknbt</i>	20715	56	100	20	100-200	12 1/2 18 45	155	170.00
<i>Sackcloth</i>	20716	56	150	30	150-300	19 18 45	215	200.00

## Without Interlocking Switches. (For 115 Volt Lamps.)

<i>Sackclothd</i>	20717	56	15	3	12-30	6 18 45	65	65.00
<i>Sackcr</i>	20718	56	37	5	25-75	6 18 45	65	65.00
<i>Sackful</i>	20719	56	62	10	50-125	7 18 45	95	85.00
<i>Sacking</i>	20720	56	75	15	75-150	9 1/2 18 45	125	105.00
<i>Sackless</i>	20721	56	100	20	100-200	12 1/2 18 45	155	120.00
<i>Sackposset</i>	20722	56	150	30	150-300	19 18 45	215	160.00



## Adjustable Rheostats.



No. 21020.

This Rheostat is simple in construction, reliable in operation, and low in cost. It is perfectly fire-proof throughout, only iron and asbestos being used in its construction. The resistance wire is wound upon an asbestos covered wrought iron drum and over the wire is spread a layer of fire-proof cement.

The drums are made both round and elliptical in shape and offer a large radiating surface which insures a cool and uniform action.

The contact with the resistance wire in the drum is made by a slide carrying a number of rollers, thereby insuring good contact at several points and avoiding any heating.

Owing to the form of the shell an exceedingly delicate graduation of resistance is obtained, and moreover the drum occupies but little space in width and is, therefore well adapted for use upon Station Switchboards.

These Rheostats can be operated directly or by mechanism connecting to the front of the Board.

Specify voltage when ordering.

<i>Saltspring</i>	21016	For	$\frac{1}{2}$ K. W. Dynamos	20.00
<i>Saltspring</i>	21017	"	3 " "	20.00
<i>Saltspring</i>	21018	"	12 " "	22.00
<i>Saltspring</i>	21019	"	15 " "	22.00
<i>Saltspring</i>	21020	"	17 " "	22.00
<i>Salubrious</i>	21021	"	20 " "	24.00
<i>Salubrious</i>	21022	"	25 " "	24.00
<i>Salubri</i>	21023	"	30 " "	24.00
<i>Salubri</i>	21024	"	40 " "	24.00
<i>Salubri</i>	21025	"	50 " "	26.00
<i>Salubri</i>	21026	"	60 " "	26.00
<i>Salubri</i>	21027	"	75 " "	26.00
<i>Salubri</i>	21028	"	100 " "	26.00

Prices quoted on special sizes.

## B.-F. Theatre Dimmers.

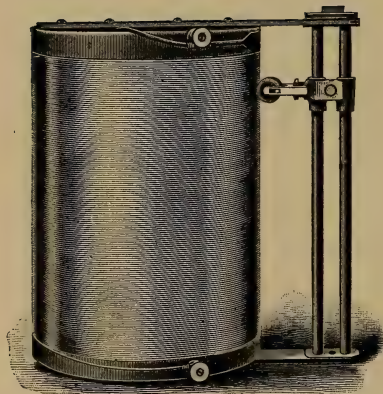
The Bairstow-Fanning Theatre Dimmer is an adjustable Rheostat for regulating the brilliancy of incandescent lamps for stage effects.

In construction these Dimmers resemble our adjustable rheostats described above.

The alterations in voltage of the lamps with the aid of these Dimmers, may be made so gradually that the change in illumination is entirely imperceptible; while on the other hand the lamps may be brought from a bright incandescence to a dull glow almost instantly. This valuable quality of rapidity of adjustment is entirely under control of the operator; while the great range and delicacy of gradations of the Dimmers is afforded by their design and construction.

These Theatre Dimmers are made not only to dim the lamps, i. e. to bring the lamps to a dull glow, but also to totally darken them if desired.

We have the sole right to manufacture these Dimmers and can furnish them in any size.

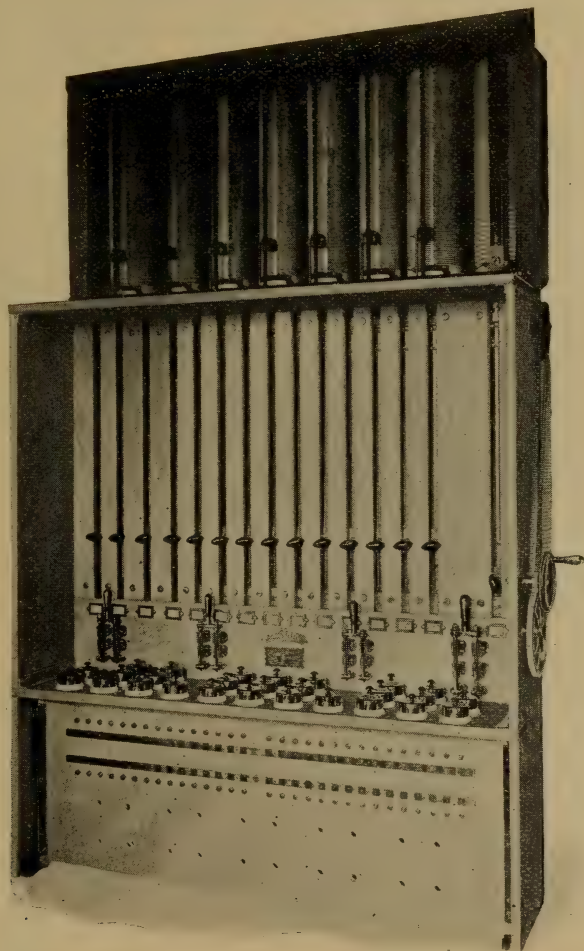


No. 372.



**Interlocking Switchboard for Theatre Lighting.**

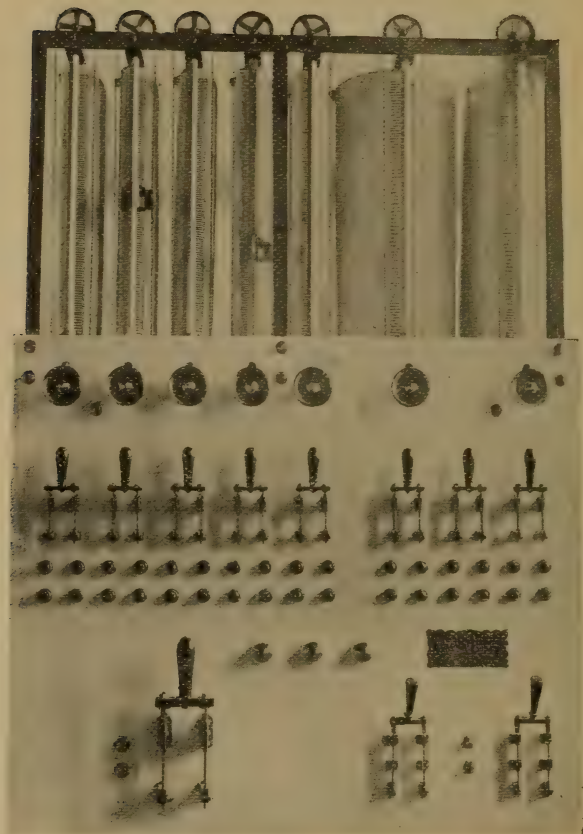
Equipped with B.-F. Rheostats.



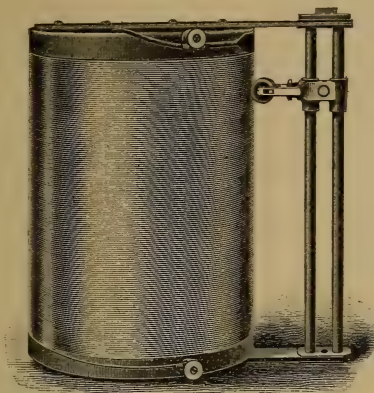
Erected in the Davidson Theatre,  
Milwaukee, Wisconsin.

**Switchboard for Theatre Lighting.**

Equipped with B.-F. Rheostats.



Erected in the Oliver Opera House,  
South Bend, Indiana.



No. 372.

**B.=F. Theatre Dimmers.—(Continued.)**

Code Word.	List No.		List Price Each
<i>Ibec</i>	372	10 Amperes, single	\$24.00
<i>Ibis</i>	373	20 " "	30.00
<i>Icarian</i>	374	25 " "	33.00
<i>Ireberg</i>	375	30 " "	36.00
<i>Irelander</i>	376	35 " "	39.00
<i>Icicle</i>	377	40 " "	42.00
<i>Icy</i>	378	50 " two in multiple	51.00
<i>Ida</i>	379	60 " "	60.00
<i>Ideal</i>	380	70 " "	75.00
<i>Idiom</i>	381	80 " "	91.50
<i>Idiot</i>	382	90 " "	110.00
<i>Idly</i>	383	100 " three	120.00
<i>Idolater</i>	384	125 " "	136.00
<i>Idolstress</i>	385	150 " four	160.00

**Lightning Arresters.**

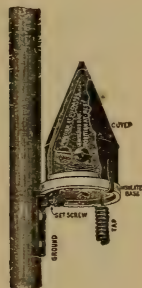
There are few problems in electrical engineering which have presented so many difficulties as that of protecting electrical apparatus against lightning.

The successful operation of lightning arresters depends largely—more than is ordinarily supposed—upon a systematic arrangement of the lightning arrester, or a combination of lightning arresters and choke coils, and upon the care with which the installation is made with reference to short straight ground wires, reliable earth connection and maintenance of these connections.

The protection of electric light and power circuits divides itself under two heads: first, the protection of distributing systems; second, the protection of transmission systems.

The Protection of Distributing Systems is effected by means of lightning arresters distributed at frequent intervals over the system. In suburban and otherwise exposed districts four to the mile of wire are recommended. In city districts two are usually found sufficient.

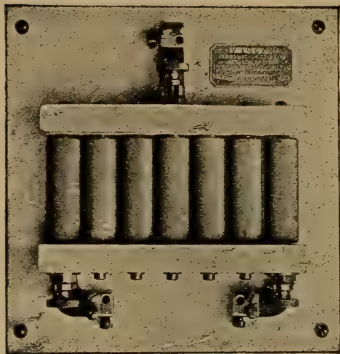
Power Transmission Systems do not require line arresters. The points of protection being at the extremities of the system, namely, in the power house and motor stations, a bank of lightning arresters, in combination with choke coils, is installed at each of these points. For voltages up to 3000 volts, four choke coils arranged in series in each wire, with lightning arresters intervening are recommended. For higher voltages than this, special combinations have to be made, according to the general characteristics of the system with reference to the capacity of the generator and the use of raising and lowering transformers.



No. 126.

**Swinging Ball Lightning Arrester.**

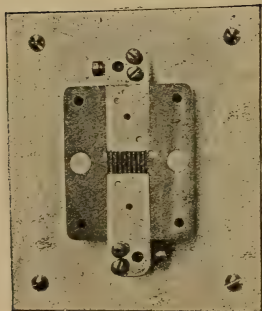
<i>Laceration</i>	126	Each	\$8.00
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No. 20763.



No. 20765.



No. 20767.

## Lightning Arresters.

### Wurt Lightning Arresters.

#### Double Pole Station Arrester.

##### Type A.

Code Word.	List No.	List Price. Each.
<i>Saddlery</i>	<b>20763</b>	For Alternating Current, Incandescent and Power Circuits, up to 1200 volts, each. . <b>\$21.00</b> Use two up to 2400 volts. Use three up to 3200 volts.

<i>Saddledrop</i>	<b>20764</b>	For Alternating Current Arc Circuits, up to 3000 volts, each. . . . . <b>21.00</b>
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#### Double Pole Line Arresters.

##### Type C.

<i>Saddletree</i>	<b>20765</b>	For Alternating Current, Incandescent and Power Circuits, up to 1200 volts, each. . <b>7.50</b> Use two up to 2400 volts. Use three up to 3000 volts.
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<i>Saddlencirc</i>	<b>20766</b>	For Alternating Current Arc Circuits up to 3000 volts, each. . . . . <b>7.50</b>
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#### Single Pole Station Arrester.

##### Type K.—For Direct Current Only.

125 up to 600 volts.

<i>Sadducorn</i>	<b>20767</b>	Each. . . . . <b>10.50</b>
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No. 20769.

## Lightning Arresters.—(Continued.)

## Wurt Lightning Arresters.—(Continued.)

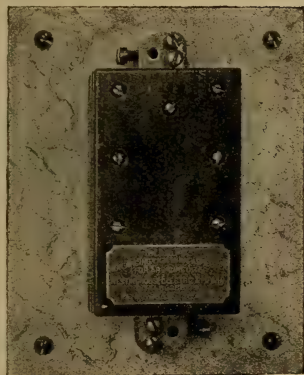
## Single Pole Line Arrester.

## Type J.

Code Word.	List No.	List Price. Each.
<i>Sadducee</i>	<b>20768</b>	For Direct Current Arc Circuits up to 4000 Volts.....
		Type J similar to Type L.
		<b>\$8.25</b>

## Type L.

<i>Sadduceism</i>	<b>20769</b>	For Direct Current Circuits, 125 up to 600 Volts.....
		<b>7.50</b>



No. 20770.

## Single Pole Station Arrester.

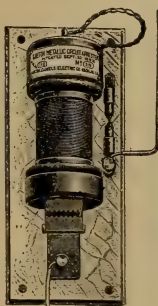
## Type I.

<i>Sadduceism</i>	<b>20770</b>	For Direct Current Arc Circuits up to 4000 Volts.....
		<b>10.50</b>

## Double Pole Station Arrester.

## Type F.

<i>Sadducee</i>	<b>20771</b>	For Direct Current, Brush Circuits only
		<b>21.00</b>



No. 467.

## Garton Lightning Arrester.

<i>Glenison</i>	<b>467</b>	Metallic Circuit Station Arresters, with wooden backs.....
		<b>10.00</b>
<i>Glenbeulah</i>	<b>468</b>	Metallic Circuit Station Arresters, with slate or marble backs.....
		<b>12.00</b>
<i>Glencliff</i>	<b>469</b>	Metallic Circuit Pole Arresters, with waterproof covers.....
		<b>12.00</b>





## Perfection Woven Wire Brushes.

Code Word.	List No				List Price. Each.
<i>Salient</i>	20900	½ ins. wide, 3-16 ins. thick, 6 ins. long			\$ .75
<i>Saliently</i>	20901	¾	1-4	7	1.25
<i>Saliferous</i>	20902	¾	1-2	7	1.50
<i>Salifubie</i>	20903	¾	1-4	7	1.35
<i>Salification</i>	20904	1	1-8	7	1.30
<i>Salify</i>	20905	1	1-4	7	1.50
<i>Saligat</i>	20906	1	5-16	7	1.60
<i>Salina</i>	20907	1½	1-4	7	1.60
<i>Salination</i>	20908	1½	5-16	7	1.70
<i>Saline</i>	20909	1½	3-8	7	1.80
<i>Salineness</i>	20910	1½	1-2	7	2.00
<i>Saliniferous</i>	20911	1½	1-4	7	1.75
<i>Saliniform</i>	20912	1½	5-16	7	1.90
<i>Salinometer</i>	20913	1½	3-8	7	2.05
<i>Salinous</i>	20914	1½	1-2	7	2.30
<i>Salique</i>	20915	1½	3-16	7	1.75
<i>Salite</i>	20916	1½	1-4	7	1.85
<i>Saliva</i>	20917	1½	5-16	7	2.00
<i>Salvoal</i>	20918	1½	3-8	7	2.20
<i>Salvoant</i>	20919	1½	1-2	7	2.50
<i>Salvoary</i>	20920	1½	1-4	7	2.00
<i>Salvoate</i>	20921	1½	5-16	7	2.20
<i>Salvation</i>	20922	1½	3-8	7	2.40
<i>Salvuous</i>	20923	1½	1-2	7	2.75
<i>Salix</i>	20924	1½	5-8	7	3.00
<i>Sallenders</i>	20925	1½	5-8	8	3.25
<i>Sallet</i>	20926	1½	1-4	7	2.20
<i>Salleting</i>	20927	1½	5-16	7	2.50
<i>Salliance</i>	20928	1½	3-8	7	2.75
<i>Salline</i>	20929	1½	1-2	7	3.25
<i>Sallowness</i>	20930	1½	1-4	7	2.25
<i>Sallowthorn</i>	20931	1½	5-16	8	2.35
<i>Sally</i>	20932	1½	3-8	8	2.50
<i>Sallylunn</i>	20933	1½	1-2	8	3.00
<i>Sallyport</i>	20934	1½	5-8	8	3.50
<i>Salmagundi</i>	20935	1½	3-4	8	4.00
<i>Salmiac</i>	20936	1½	7-8	8	4.50
<i>Salmis</i>	20937	1½	1-4	7	2.30
<i>Salmon</i>	20938	1½	5-16	8	2.45
<i>Salmonet</i>	20939	1½	3-8	8	2.75
<i>Salmonoid</i>	20940	1½	1-2	8	3.50
<i>Salmonpeel</i>	20941	1½	5-8	8	4.25
<i>Salmonpipe</i>	20942	1½	5-8	12	7.00
<i>Salmontrout</i>	20943	2	1-4	7	2.50
<i>Salugen</i>	20944	2	5-16	8	2.75
<i>Salon</i>	20945	2	3-8	8	3.00
<i>Saloon</i>	20946	2	1-2	8	3.75
<i>Saloop</i>	20947	2	5-8	8	4.50
<i>Salop</i>	20948	2½	3-8	8	3.30
<i>Salpa</i>	20949	2½	3-8	8	3.50
<i>Salpian</i>	20950	2½	1-2	8	4.25
<i>Salpicon</i>	20951	2½	5-8	8	4.75
<i>Salvify</i>	20952	2½	5-16	8	3.25
<i>Salves</i>	20953	2½	3-8	8	4.00



## Perfection Woven Wire Brushes.

—(Continued.)

Code Word	List No.	List Price, Each.		
<i>Salsilla</i>	20954	2½ ins. wide, 1-2 ins. thick, 8 ins. long.....	\$4.50	
<i>Salsocid</i>	20955	2½ " 5-8 " 8 " .....	5.00	
<i>Salsoda</i>	20956	2½ " 3-8 " 8 " .....	4.25	
<i>Salsolaceous</i>	20957	2½ " 1-2 " 8 " .....	4.75	
<i>Salsuginous</i>	20958	2½ " 5-8 " 8 " .....	5.25	
<i>Salt</i>	20959	3 " 3-8 " 8 " .....	4.50	
<i>Saltant</i>	20960	3 " 1-2 " 8 " .....	5.00	
<i>Saltarello</i>	20961	3 " 5-8 " 8 " .....	5.75	
<i>Saltate</i>	20962	3 " 3-4 " 8 " .....	6.50	
<i>Saltation</i>	20963	3¾ " 1-4 " 8 " .....	3.00	
<i>Saltatorial</i>	20964	3¾ " 5-16 " 8 " .....	3.75	
<i>Saltatory</i>	20965	3¾ " 3-8 " 8 " .....	4.75	
<i>Saltake</i>	20966	3¾ " 1-2 " 8 " .....	5.50	
<i>Saltent</i>	20967	3¾ " 5-8 " 8 " .....	6.50	
<i>Saltcellar</i>	20968	3¾ " 3-4 " 8 " .....	7.50	



## The Wirt Dynamo Brush.

### Regular Sizes.

	Style.	Width.	Thick- ness.	Length.	Capacity, Amperes.	List Price.
<i>Saniste</i>	21063	A	½	5-16	8	\$0.90
<i>Sanite</i>	21064	M	¾	5-16	8	1.05
<i>Sanlet</i>	21065	B	1	5-16	8	1.25
<i>Sanoids</i>	21066	N	1	3-8	8	1.45
<i>Samoyeds</i>	21067	F	1¼	1-4	8	1.15
<i>Samp</i>	21068	I	1¼	5-16	8	1.40
<i>Salurmist</i>	21069	O	1¼	3-8	8	1.65
<i>Salurnite</i>	21070	D	1½	3-8	10	2.00
<i>Satyr</i>	21071	J	1½	1-2	10	2.60
<i>Satyrus</i>	21072	P	1½	5-16	8	1.55
<i>Satyrice</i>	21073	Q	1¾	5-16	8	1.70
<i>Satyrinn</i>	21074	L	1½	5-16	10	2.05
<i>Satyrinn</i>	21075	C	1½	3-8	10	2.45
<i>Sauce</i>	21076	K	1½	1-2	10	3.25
<i>Saucealone</i>	21077	G	1½	7-16	10	2.85
<i>Saucebont</i>	21078	E	1½	5-8	12	4.60

### Special Sizes.

Thick- ness in ins.		Length in ins.		WIDTH IN INCHES.														
		½	¾	1	1¼	1½	1¾	2	2½	3	3½	4	4½	5	5½	6	6½	7
3-16	8	\$0 55	\$0 60	\$0 65	\$0 70	0 75	\$0 80	\$0 85	\$0 90	\$0 95	\$1 00	\$1 05	\$1 10	\$1 15	\$1 20	\$1 25	\$1 30	\$1 35
	10	65	70	75	80	85	90	1 00	1 05	1 10	1 15	1 20	1 25	1 30	1 35	1 40	1 45	1 50
	12	70	75	80	85	90	95	1 05	1 10	1 15	1 20	1 25	1 30	1 35	1 40	1 45	1 50	1 55
1-4	8	75	80	85	90	95	1 00	1 10	1 15	1 20	1 25	1 30	1 35	1 40	1 45	1 50	1 55	1 60
	10	80	85	90	95	1 00	1 10	1 15	1 20	1 25	1 30	1 35	1 40	1 45	1 50	1 55	1 60	1 65
	12	85	90	95	1 00	1 05	1 10	1 15	1 20	1 25	1 30	1 35	1 40	1 45	1 50	1 55	1 60	1 65
5-16	8	90	1 00	1 05	1 10	1 15	1 20	1 25	1 30	1 35	1 40	1 45	1 50	1 55	1 60	1 65	1 70	1 75
	10	1 00	1 10	1 15	1 20	1 25	1 30	1 35	1 40	1 45	1 50	1 55	1 60	1 65	1 70	1 75	1 80	1 85
	12	1 05	1 10	1 15	1 20	1 25	1 30	1 35	1 40	1 45	1 50	1 55	1 60	1 65	1 70	1 75	1 80	1 85



## The Wirt Dynamo Brush.

—(Continued.)

## Special Sizes.—(Continued.)

Thickness in ins.	Length in ins.	WIDTH IN INCHES.															
		$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	3	3 $\frac{1}{4}$	3 $\frac{1}{2}$	4
3-8	8	1.10	1.15	1.25	1.35	1.45	1.55	1.65	1.75	1.80	1.90	2.00	2.10	2.20	2.35	2.45	2.60
	10	1.15	1.30	1.40	1.50	1.65	1.75	1.85	2.00	2.10	2.20	2.35	2.45	2.60	2.75	2.85	3.00
	12	1.20	1.40	1.55	1.70	1.85	1.95	2.10	2.25	2.40	2.50	2.65	2.80	2.95	3.10	3.25	3.40
7-16	8	1.25	1.35	1.45	1.55	1.70	1.80	1.90	2.00	2.10	2.20	2.35	2.45	2.55	2.70	2.85	3.00
	10	1.35	1.50	1.60	1.75	1.90	2.05	2.15	2.30	2.45	2.60	2.75	2.90	3.10	3.25	3.40	3.60
	12	1.45	1.60	1.80	1.95	2.10	2.30	2.45	2.60	2.75	2.90	3.10	3.25	3.40	3.55	3.70	3.90
1-2	8	1.40	1.50	1.65	1.80	1.90	2.00	2.15	2.30	2.40	2.50	2.65	2.80	2.90	3.05	3.15	3.30
	10	1.60	1.70	1.85	2.00	2.15	2.30	2.45	2.60	2.80	2.95	3.10	3.25	3.40	3.55	3.70	3.90
	12	1.65	1.85	2.00	2.20	2.40	2.60	2.80	2.95	3.15	3.35	3.50	3.70	3.90	4.10	4.30	4.50
5-8	8	1.70	1.90	2.05	2.20	2.35	2.50	2.65	2.80	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.10
	10	1.90	2.05	2.25	2.45	2.65	2.85	3.05	3.25	3.45	3.65	3.85	4.05	4.20	4.40	4.60	4.85
	12	2.05	2.25	2.50	2.75	3.00	3.20	3.45	3.70	3.90	4.15	4.40	4.60	4.85	5.10	5.35	5.65

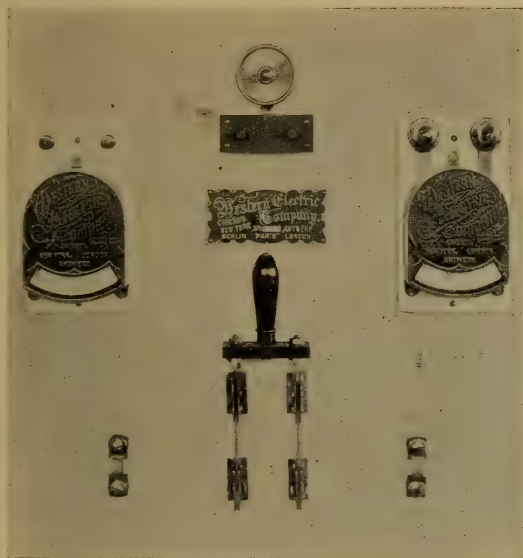
Thickness is given for the middle of the Brush.



## Carbon Brushes.

We give below a list of the Standard Carbon Brushes used on Western Electric Generators and Motors. In addition to this list we are prepared to quote prices on any size needed. When you are in the market for brushes write to us for special price list which will be mailed on application.

Code Word.	List No.	List Price Per 1000.
<i>Sapling</i>	21269 1 $\frac{1}{4}$ x $\frac{3}{4}$ x $\frac{1}{4}$	\$20.00
<i>Saponaceous</i>	21270 1 $\frac{1}{4}$ x $\frac{3}{4}$ x $\frac{3}{8}$	20.00
<i>Saponacity</i>	21271 1 $\frac{1}{4}$ x $\frac{3}{4}$ x $\frac{1}{4}$	20.00
<i>Saponary</i>	21272 2 x $\frac{3}{4}$ x $\frac{1}{4}$	20.00
<i>Saponifiable</i>	21273 2 x 1 x $\frac{1}{2}$	25.00
<i>Saponify</i>	21274 2 x 2 x $\frac{3}{4}$	40.00
<i>Saponine</i>	21275 2 $\frac{1}{2}$ x $\frac{3}{4}$ x $\frac{3}{8}$	25.00
<i>Saponule</i>	21276 2 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x $\frac{3}{8}$	25.00
<i>Sapor</i>	21277 2 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x $\frac{1}{2}$	25.00
<i>Saporific</i>	21278 2 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x 1	40.00
<i>Saporosity</i>	21279 2 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x $\frac{3}{8}$	25.00
<i>Saporous</i>	21280 2 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x $\frac{1}{4}$	25.00
<i>Sapota</i>	21281 4 x 1 $\frac{1}{4}$ x $\frac{3}{4}$	55.00
<i>Sappare</i>	21282 4 x 1 $\frac{1}{4}$ x $\frac{3}{4}$	60.00
<i>Sapper</i>	21283 4 x 1 $\frac{1}{4}$ x $\frac{3}{8}$	65.00
<i>Sapphic</i>	21284 4 x 1 $\frac{1}{4}$ x 1	70.00
<i>Sappiness</i>	21286 4 x 2 x 1	80.00
<i>Sappy</i>	21287 4 x 2 x 1 $\frac{1}{4}$	100.00
<i>Saprotter</i>	21288 4 x 2 x 1 $\frac{1}{4}$	130.00



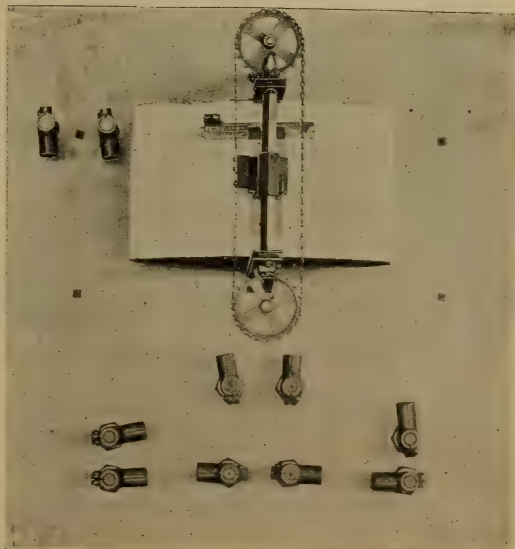
### Switchboards.

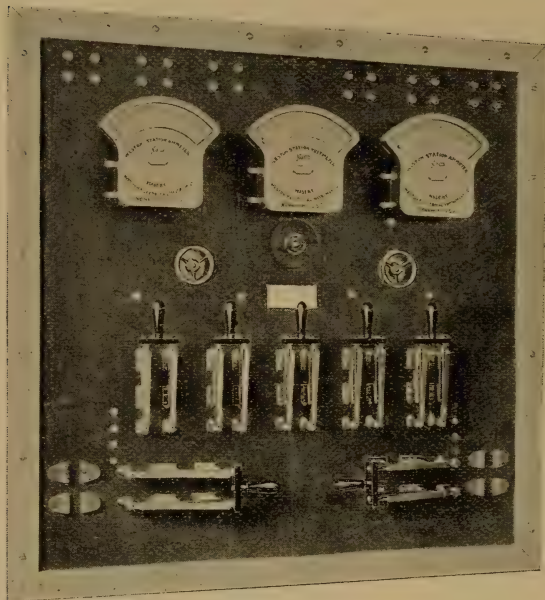
The illustrations on this page show respectively the front and rear of our standard switchboard for one dynamo and one feeder circuit.

Switchboard Front.

We are prepared to furnish switchboards for any number or sizes of dynamos and for any number of feeder circuits.

Switchboard Rear.

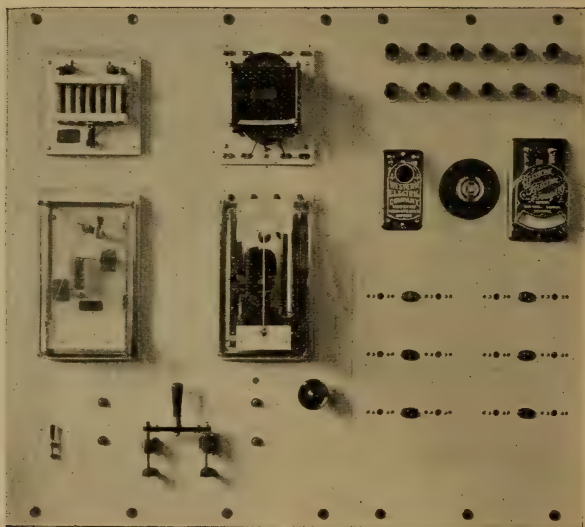




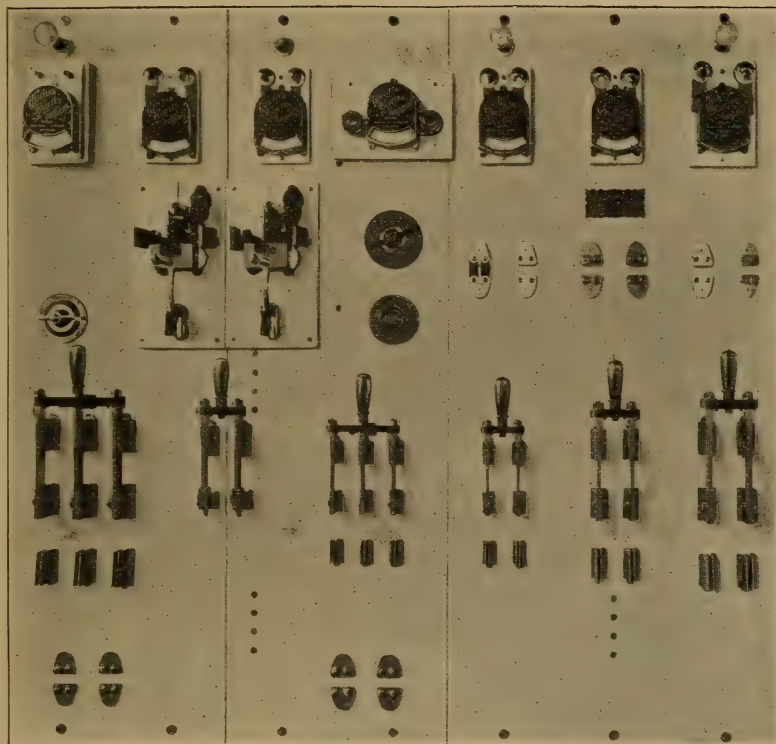
### Switchboards.

This illustration shows a switchboard furnished with Type "Q" quick break switches for two dynamos and five line circuits.

This illustration shows a combination switchboard for one incandescent alternator and arc dynamo.



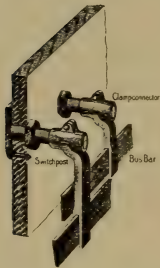
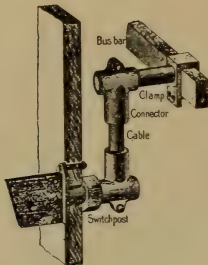


**Switchboards.**

Combination power and lighting board for two dynamos and four circuits.

Equipped with Western Electric ammeters and volt meters, and Western Electric type "E" switches.

It is almost impossible to standardize switchboards. We build switchboards in accordance with specifications and conditions.



## Switchboard Fittings.

### Clamps for Inside Bus Bars.

The connections from switches to bus bars are made by using the inside bus bar clamps.

The stud extends back so that the connector on it is in line with the connector on the switch post; no bend is necessary on the cable.

Clamps for  $\frac{3}{8} \times 1\frac{1}{2}$  in.,  $\frac{1}{2} \times 1\frac{1}{2}$  in. and  $1 \times 2$  in. bus bars can be furnished promptly.

Connectors, switches and clamps are all numbered alike for capacity.

No. 1 being for 50 amperes.

No. 6 being for 600 amperes.

No. 2 " 75 "

No. 7 " 800 "

No. 3 " 150 "

No. 8 " 1200 "

No. 4 " 300 "

No. 9 " 2000 "

No. 5 " 450 "

Prices quoted on application.

### Clamp Connectors.

When space back of switchboard is very limited we make the connector on the switch post and clamp all one piece.

This style made to order. In writing for prices give full information as to size and the quantity.

### Connectors, with Set Screws, for Heavy Conductors.



Nos. 65161 to 65171.



Nos. 65173 to 67183.



Nos. 67361 to 67371.

<i>Chime</i>	65161	"Tee" Connector for $\frac{1}{2}$ inch rod, each.	.30
<i>Chimera</i>	65163	" " " $\frac{3}{8}$ " " "	.50
<i>Chimerical</i>	65165	" " " $\frac{1}{2}$ " " "	1.10
<i>Chemistry</i>	65167	" " " $\frac{3}{4}$ " " "	1.50
<i>Chip</i>	65169	" " " $\frac{1}{2}$ " " "	1.60
<i>Chipped</i>	65171	" " " $\frac{3}{4}$ " " "	2.00
<i>Chipping</i>	65173	Elbow " " $\frac{1}{2}$ " " "	.25
<i>Chirp</i>	65175	" " " $\frac{3}{8}$ " " "	.45
<i>Chisled</i>	65177	" " " $\frac{1}{2}$ " " "	.80
<i>Chivalrous</i>	65179	" " " $\frac{3}{4}$ " " "	.95
<i>Chivalry</i>	65181	" " " $\frac{1}{2}$ " " "	1.00
<i>Chocolate</i>	65183	" " " $\frac{3}{4}$ " " "	1.60
<i>Choice</i>	67361	Straight " " $\frac{1}{2}$ " " "	.20
<i>Choir</i>	67363	" " " $\frac{3}{8}$ " " "	.35
<i>Choke</i>	67365	" " " $\frac{1}{2}$ " " "	.70
<i>Choking</i>	67367	" " " $\frac{3}{4}$ " " "	.85
<i>Choler</i>	67369	" " " $\frac{1}{2}$ " " "	.90
<i>Cholera</i>	67371	" " " $\frac{3}{4}$ " " "	1.50

### Switchboard Fittings—(Continued)

## Connectors for Heavy Conductors.



Code Word.	List No.		List Price.
<i>Zitheric</i>	<b>65189</b>	Cross Connection for $\frac{1}{4}$ inch rod, each.....	<b>\$1.10</b>
<i>Choose</i>	<b>65193</b>	" " " " $\frac{3}{8}$ " " " .....	<b>2.00</b>
<i>Chooser</i>	<b>65197</b>	" " " " $\frac{1}{2}$ " " " .....	<b>2.50</b>
<i>Choosing</i>	<b>65201</b>	" " " " $\frac{5}{8}$ " " " .....	<b>3.50</b>
<i>Chop</i>	<b>65205</b>	" " " " $\frac{3}{4}$ " " " .....	<b>4.50</b>
<i>Chopper</i>	<b>65209</b>	" Tee" or " Y" Connection for $\frac{1}{4}$ inch rod, each..	<b>.90</b>
<i>Chops</i>	<b>65213</b>	" " " " $\frac{3}{8}$ " " " .....	<b>1.50</b>
<i>Choral</i>	<b>65217</b>	" " " " $\frac{1}{2}$ " " " .....	<b>1.75</b>
<i>Chord</i>	<b>65221</b>	" " " " $\frac{5}{8}$ " " " .....	<b>2.50</b>
<i>Chorister</i>	<b>65225</b>	" " " " $\frac{3}{4}$ " " " .....	<b>3.50</b>
<i>Chorus</i>	<b>65229</b>	Straight Connection for $\frac{1}{4}$ inch rod, each.....	<b>.70</b>
<i>Chorusgirl</i>	<b>65233</b>	" " " " $\frac{3}{8}$ " " " .....	<b>1.00</b>
<i>Chose</i>	<b>65237</b>	" " " " $\frac{1}{2}$ " " " .....	<b>1.20</b>
<i>Chosen</i>	<b>65241</b>	" " " " $\frac{5}{8}$ " " " .....	<b>1.60</b>
<i>Choosing</i>	<b>65245</b>	" " " " $\frac{3}{4}$ " " " .....	<b>2.40</b>

### Wire Terminals.



<i>Lack</i>	1321	$\frac{1}{4}$ Inch, each	.25
<i>Lackey</i>	1322	$\frac{3}{8}$ "	.40
<i>Lacking</i>	1333	$\frac{1}{2}$ "	.75
<i>Laonic</i>	1334	$\frac{5}{8}$ "	1.00
<i>Laonical</i>	1335	$\frac{3}{4}$ "	1.50
<i>Laonics</i>	1336	1 "	2.50

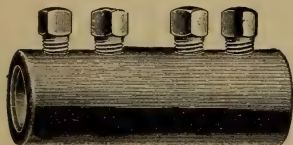
### Wire Connections.

### Single Screw.



	Outside Size.	Size of Wire.	
<i>Crag</i>	1851	$\frac{3}{8}$	6 per 100..... 8.60
<i>Cragged</i>	1852	$\frac{7}{16}$	4 " ..... 9.50
<i>Craggy</i>	1853	$\frac{1}{2}$	2 " ..... 11.50
<i>Cramp</i>	1854	$\frac{7}{16}$	0 " ..... 14.50
<i>Cramping</i>	1855	$\frac{3}{8}$	00 " ..... 16.00

### Double Screw.



	Outside Size.	Size of Wire.		
<i>Edna</i>	<b>8973</b>	$\frac{3}{8}$	000 per 100.....	<b>40.00</b>
<i>Educate</i>	<b>8974</b>	$\frac{7}{8}$	0000    "       .....	<b>47.00</b>
<i>Education</i>	<b>8975</b>	$1\frac{5}{8}$	"       .....	<b>55.00</b>
<i>Edward</i>	<b>8976</b>	$1\frac{1}{2}$	"       .....	<b>65.00</b>

## Switchboard Fittings—(Continued).



No. 8977.

## Clamp Connections for Heavy Conductors.

Code Word.	List No.	List Price.
<i>Chorder</i>	8977	Cross Connection for $\frac{3}{8}$ inch rod, each.....\$2.20



No. 8978.



No. 8979.

<i>Chrimal</i>	8978	T Connection for $\frac{3}{8}$ inch rod, each..... 1.45
<i>Chrimath</i>	8979	Straight Connection for $\frac{3}{8}$ inch rod, each..... 1.10



No. 8980.

<i>Chrim</i>	8980	Y Connection for $\frac{3}{8}$ inch rod, each..... 1.15
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No. 8981.



No. 8982.

<i>Cemented</i>	8981	L Connection for $\frac{3}{8}$ inch rod, each..... 1.25
<i>Cementing</i>	8982	T Connection for $\frac{3}{8}$ inch rod, each..... 1.20

## Wire Terminals.



Nos. 1804 to 1812.

<i>Cheaply</i>	1804	For No. 12 wire, B. & S. G., per 100.....	8.50
<i>Cheapsness</i>	1805	" 10 " " " " " " " " " " " "	9.50
<i>Cheating</i>	1806	" 8 " " " " " " " " " " " "	10.50
<i>Checker</i>	1807	" 6 " " " " " " " " " " " "	12.50
<i>Checkmate</i>	1808	" 4 " " " " " " " " " " " "	14.50
<i>Cheerful</i>	1809	" 3 " " " " " " " " " " " "	15.50
<i>Cheerfully</i>	1810	" 2 " " " " " " " " " " " "	16.75
<i>Cheerily</i>	1811	" 1 " " " " " " " " " " " "	19.00
<i>Cheering</i>	1812	" 0 " " " " " " " " " " " "	23.00

## Switchboard Fittings—(Continued).



No. 1813.

## Wire Holders.

Code Word.	List No.		List Price.
<i>Corvette</i>	1813	1 to 25 amperes, per pair.	\$0.50
<i>Cosmetic</i>	1814	25 to 100 " "	1.00
<i>Cosmic</i>	1815	100 to 300 " "	2.00
<i>Cossack</i>	1816	400 " "	3.00
<i>Costing</i>	1817	500 " "	4.00
<i>Couch</i>	1818	900 " "	5.00
<i>Couchant</i>	1819	800 " "	6.00
<i>Cough</i>	1820	1000 " "	8.00



No. 1821.

## Bus Bar Stands.

<i>Coventry</i>	1821	$\frac{1}{2}$ inch, each.	.50
<i>Covert</i>	1822	$\frac{3}{8}$ " "	.75
<i>Covertly</i>	1823	$\frac{1}{2}$ " "	1.00
<i>Coverture</i>	1824	$\frac{3}{4}$ " "	1.25
<i>Covert</i>	1825	$\frac{1}{2}$ " "	1.50
<i>Coated</i>	1826	1 " "	2.00
<i>Coeting</i>	1827	1 $\frac{1}{4}$ " "	2.50
<i>Coetous</i>	1828	1 $\frac{1}{2}$ " "	3.00

We make the above in the following lengths: 1 inch, 1 $\frac{1}{4}$  inch, 2 inch and 4 inch. SPECIFY LENGTH.

## Bus Bar Connections.

## Solid.

<i>Corey</i>	1829	$\frac{1}{2}$ inch, each.	.50
<i>Corard</i>	1830	$\frac{3}{8}$ " "	.60
<i>Corardice</i>	1831	$\frac{1}{2}$ " "	.75
<i>Corardly</i>	1832	$\frac{3}{4}$ " "	1.00
<i>Crab</i>	1833	$\frac{1}{2}$ " "	1.25
<i>Crabapple</i>	1834	$\frac{3}{4}$ " "	1.50
<i>Crabbed</i>	1835	1 " "	2.00
<i>Crabbedly</i>	1836	1 $\frac{1}{4}$ " "	2.50
<i>Crabby</i>	1837	1 $\frac{1}{2}$ " "	3.50

## Split.

<i>Crack</i>	1838	$\frac{1}{2}$ inch, each.	.50
<i>Cracked</i>	1839	$\frac{3}{8}$ " "	.60
<i>Cracker</i>	1840	$\frac{1}{2}$ " "	.75
<i>Cracking</i>	1841	$\frac{3}{4}$ " "	1.00
<i>Crackle</i>	1842	$\frac{1}{2}$ " "	1.25
<i>Crackling</i>	1843	$\frac{3}{4}$ " "	1.50
<i>Cradle</i>	1844	1 " "	2.00
<i>Cradled</i>	1849	1 $\frac{1}{4}$ " "	2.50
<i>Crating</i>	1850	1 $\frac{1}{2}$ " "	3.50



No. 1829.



No. 1838.



## Switchboard Fittings—(Continued).

## Switchboard Brackets.

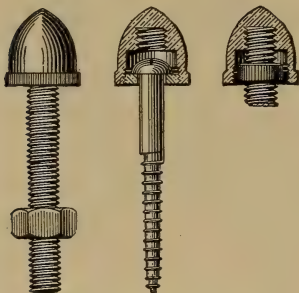
Code Word.	List No.	List Price
<i>Jumping</i>	136 1 Light, each .....	\$1.25
<i>Junction</i>	137 1 Light, each .....	1.50
<i>Juncture</i>	138 2 " " .....	2.50



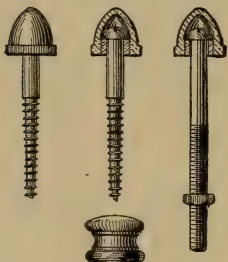
No. 136.



No. 137.



No. 143.



Nos. 143 to 145.



No. 139.

## Switchboard Bolts.

<i>Kirk</i>	141 Machine Screw, complete, each .....	.40
<i>Kirkman</i>	142 Wood " " " .....	.30

<i>Kirtle</i>	143 Wood Screw, complete, each .....	.20
<i>Kirtled</i>	144 Machine " " " .....	.20
<i>Kiss</i>	145 Special Cap to fit Nos. 143 and 144, each .....	.20

<i>Jungle</i>	139 Voltmeter Bolt, each .....	.20
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# ARC SUPPLIES.

## Miscellaneous.



No. 213.

### Current Direction Indicator.

This instrument is placed directly in an arc circuit and visually indicates or shows the direction of the current, if desired, it can be made to close a local battery circuit so as to ring an alarm bell and trip an annunciator needle whenever the current flows in the wrong direction, the annunciator showing the number of the circuit that is misconnected.

The Indicator is well adapted for use upon arc circuits of both high and low tension systems of any manufacture.

Code Word.	List No.	List Price.
<i>Eulogy</i>	213 Each .....	\$20.00



No. 214

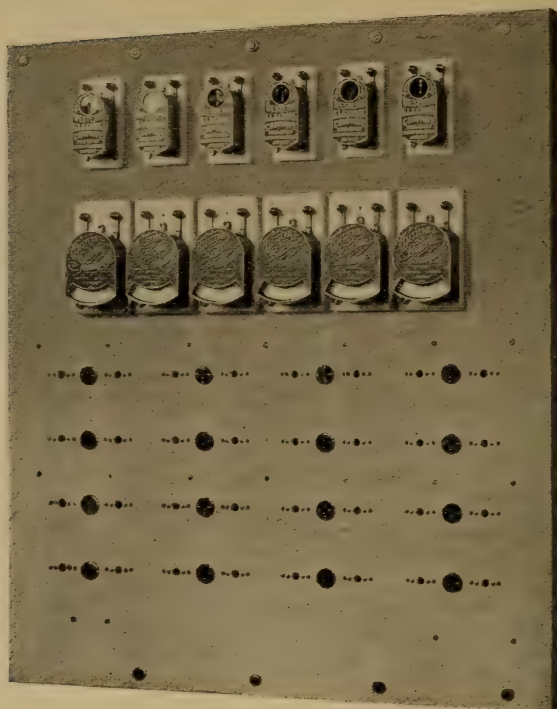
### Arc Ammeter.

This Ammeter is designed for use as a station instrument. It is well protected by a sealed case; has no springs or permanent magnets; is dead beat and accurate within one per cent.

<i>Eulogize</i>	214 Each.....	18.00
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### Arc Switchboard.

Equipped with Western Electric Instruments.



A Typical Switchboard constructed for six dynamo and ten line circuits. The board is constructed of marble, and for each dynamo is furnished an ammeter and polarity indicator. Only specially selected marble is used for arc boards and the workmanship is thoroughly guaranteed. Specifications for special boards will be furnished on application.

# Arc Switchboard Fittings.

## Improved Spring Jack.



No. 21350.

This cut represents the latest type of Switchboard Spring Jack for Arc Circuits. The Spring Jack is separable and a bushing screwing through from the face of the board holds the Spring Jack in place and obviates any liability from shock on the face of the board as there are no metal parts of the Jack on the front of the board. The connection to circuit is made by means of a swivel lug and brings the wire against the marble board. When the Spring Jack is in place, with all connections made, it extends from the back of the board but  $2\frac{3}{4}$  inches. The contact spring is of phosphor bronze, and extra length is secured by making it the curved form as shown.

Code Word	List No.	List Price. Each.
<i>Sarcocod</i>	21350 Spring Jack .....	\$2.50

## Improved Plugs.



No. 21351.

The Safety Plug illustrated is of the sheathing type and renders it impossible to obtain a shock should the circuit be opened accidentally at the switchboard while making a change of circuits when the dynamo is in operation. The insulation is of hard rubber and of sufficient strength to stand any ordinary service. These plugs are made in two sizes, one for main circuit and one for transfer circuit.



No. 21352.

<i>Sarcocolla</i>	21351 Transfer Plug .....	1.20
<i>Sarcocod</i>	21352 Main Plug .....	1.50

## Old Style Plugs.



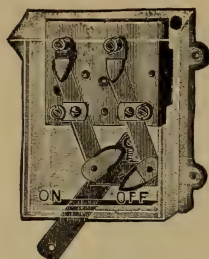
No. 1176.

<i>Dawning</i>	1176 Disconnecting Plug, each....	.60
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No. 1177.

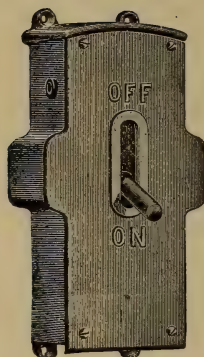
<i>Day</i>	1177 Main Plug, each.....	.90
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No. 935.

**Cleveland Arc Cut-out.**

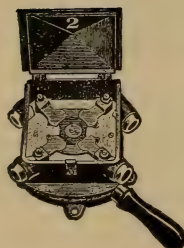
Code Word.	List No.	List Price.
<i>Editor</i>	935 Each .....	\$2.50



No. 2926.

**Western Electric Building Switch.**

<i>Edmond</i>	2926 Each .....	7.50
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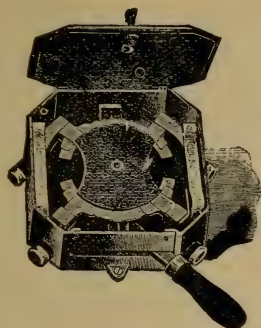


No. 1115.

**Hope Arc Cut-out.**

<i>Damp</i>	1115	Slate base, each.....	4.70
<i>Dampness</i>	1116	Porcelain base, each.....	6.00
<i>Daniel</i>	1117	" " cam movement, each.....	6.00

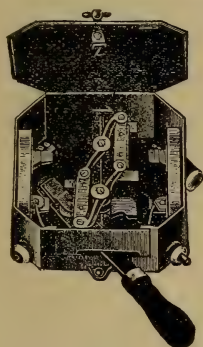




No. 1118.

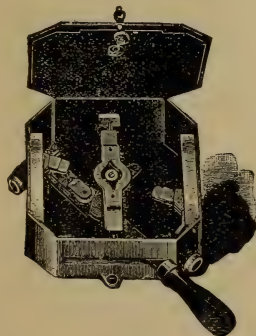
**Hope Arc Cut-out—(Continued).**

Code Word.	List No.	List Price.
<i>Dance</i>	1118 Extra large, for station use, each.....	\$20.00



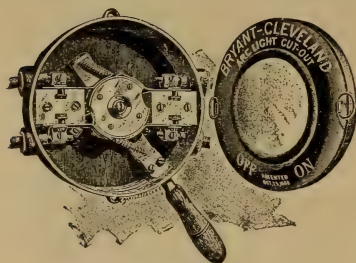
No. 1119.

<i>Dancer</i>	1119 For Alternating Currents, each.....	18.00
<i>Dancing</i>	1120 " " " with fuse, each.....	18.00



No. 1127.

<i>Dandify</i>	1127 For Alternating Currents, Bi-pole, each.....	14.40
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No. 934.

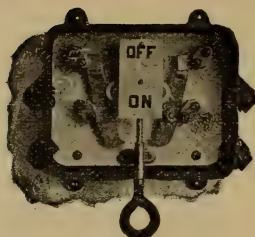
### Bryant-Cleveland Arc Cut-Out.

This Arc Cut-Out is made entirely of porcelain and metal, consequently incombustible and moisture-proof.

The action of the commutator at the point of breaking or closing the circuit is entirely uncontrolled by the handle.

The binding posts are the well-known K. W. style, very secure and easy to wire.

Code Word.	List No.	List Price.
<i>Edition</i>	934 Each.....	Each. \$3.00



No. 21079.

### F. W. Large Arc Circuit Cut-Out.

In order to comply with the requirements of the fire underwriters an absolute cut-out must be placed wherever arc wires enter or leave a building. The cut-out here shown is of an improved type, having been adopted by many of the large electric companies. It is fire-proof, all the mechanism being mounted on porcelain, while the switching action is instantaneous in both directions, the operator having no control over it. It is, therefore, impossible for the contacts to remain in any position but that shown by the indicator "on" or "off." This cut-out is designed for heavy service, and will operate without arcing on from one to fifty lamps.

<i>Sauerborn</i>	21079 Each.....	7.00
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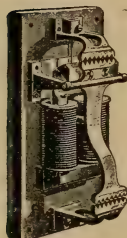


No. 21080.

### F. W. Small Arc Circuit Cut-Out.

This Cut-Out is intended for light service, such as from one to five lamps. It is designed for use in places where it would be inconvenient to install the larger size. The switching action is performed by turning a key which compresses a spring, then suddenly releasing it, causing the central porcelain disc to make one-quarter revolution but always in the same direction. This instantly switches the current off and on. This cut-out is admirably adapted for use in iron lamp posts where the cables come up from below.

<i>Sauerborn</i>	21080 Each.....	7.00
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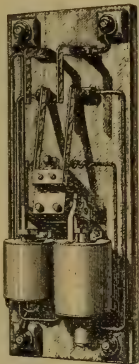
No. 21081.

### Lightning Arresters for Arc Circuits.

Where arc circuits enter or leave the station it is necessary to place lightning arresters in the several branches, in order to protect the dynamos and apparatus in the station during heavy thunder storms so prevalent in some parts of this country. The lightning arrester here shown affords a path for the lightning discharge to earth, and should an arc from any cause follow the discharge, it is broken.

<i>Sauer</i>	21081 Each.....	10.00
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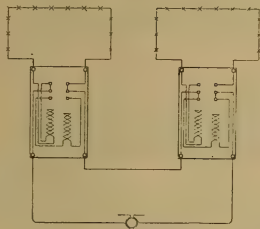
### Automatic Circuit Controlling Switch.



This switch is designed more especially for use with series arc or other high potential circuits where it is desired to cut out and entirely insulate a line when not in actual service. It is entirely automatic in its action and never offers any appreciable resistance to the passage of current through itself. The construction is such that when current is supplied to its terminals that current will be established in the line in case the line is in proper working condition; if the line should be open the switch will again insulate the line and the current will flow directly through the switch encountering there only the resistance of a small solenoid wound with heavy wire. If at any time during the operation of the line an accident should occur causing the circuit to be opened, the switch will immediately insulate the line and provide a path for the current through itself. Before remaining permanently in that position, however, it will make a trial stroke so that if the continuity of the line has been re-established (as for instance by the dropping together of carbons in a lamp whose rod had become stuck) that current will be re-established in the line as before.

The diagrams of circuits shows the usual way of connecting the switches to the lamp circuits—any number of switches may be used on a line, each one controlling a given portion. A single switch is capable of controlling a circuit of any number of lamps up to fifty.

Prices on application.



### Electric Clock Switch.

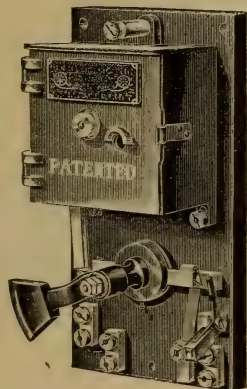
This Switch was designed for use in offices, show windows, hotels, etc., or on any direct or alternating current circuit, not exceeding 125 volts of pressure.

It operates both to turn on the current at whatever hour of the day the dial is set for, and later on to cut it off again at any desired time.

It is not a magnetic, but a mechanical switch, operated by means of a clock movement, which is wound when the switch is set.

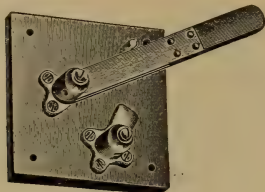
The clock movement is protected by a neat Iron Japanned case, with hinged door. The switch part is free, and readily accessible. A case, enclosing the entire switch, can be furnished if desired. All the parts are insulated in the best manner, and the work is strong and substantial.

Mounted on slate base, capacity 10 amperes.



No. 23078.

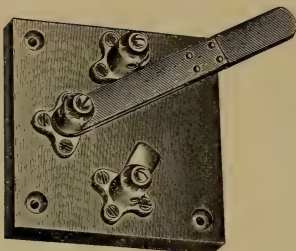
Code Word.	List No.	Price List. Each.
<i>Silurian</i>	<b>23078</b> Electric Clock Switch .....	<b>\$24.00</b>



No. 21048.

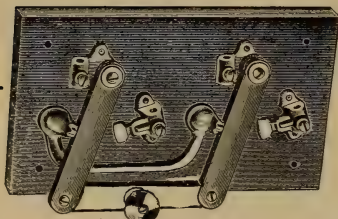
**Arc Light Line Switches.**

Code Word.	List No.	List Price. Each.
<i>Saleor</i>	21048 2-Point .....	\$2.00
	Mounted on Slate.	



No. 21049.

<i>Sam</i>	21049 3-Point .....	2.50
	Mounted on Slate.	

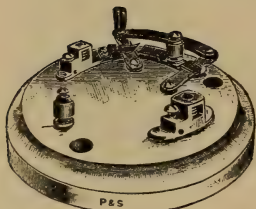


No. 21050.

**Isolating Switch for Arc Circuit.**

A simple and reliable Switch adapted for currents below 30 amperes, and which operates to completely isolate or remove the lamps from all connections with a circuit made with a circuit. Made with slate base and bronze terminals.

<i>Samara</i>	21050 Each.....	3.50
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No. 21053.

**P. & S. China Hanging Board.**

<i>Samaroid</i>	21053 Base, only .....	.70
<i>Samararra</i>	21054 " with old brass work refitted.....	1.00





No. 2850.

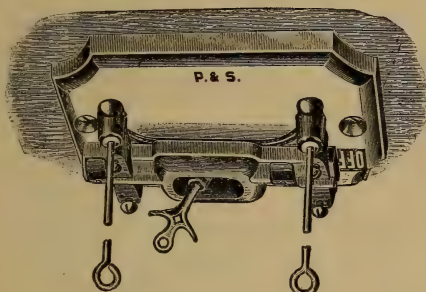
### Arc Cut-Out Boards.

Code Word	List No.	List Price. Each.
<i>Earldom</i>	2850 Round, each.....	\$ 2.00



No. 2851.

<i>Earn</i>	2851 Oblong, each.....	1.75
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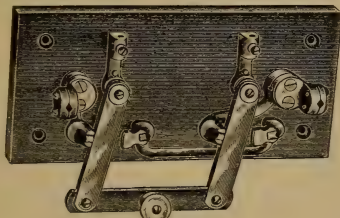
No. 8851.

### China Arc Hanging Board.

No. 8851, for series circuits, has automatic device which closes circuit if the lamp is disconnected when the switch is on.

No. 8852 is for incandescent circuits, and the switch is also double pole and breaks in four places.

Code Word.	List No.	List Price. Each.
<i>Dating</i>	8851 For Constant Current, Series Circuit .....	2.50
<i>Dative</i>	8852 For Constant Potential, Multiple Circuits .....	2.50



No. 21051.

### Stationary Lamp Hanger.

#### With Isolating Switch.

By the use of this Hanger the lamp can be entirely disconnected from the circuit, and not merely shunted, as is the case with single pole switches. They are made for either wide or narrow frame lamps. Mounted on slate.

<i>Sannare</i>	21051 Narrow frame.....	4.50
<i>Sannatitan</i>	21052 Wide " .....	5.25

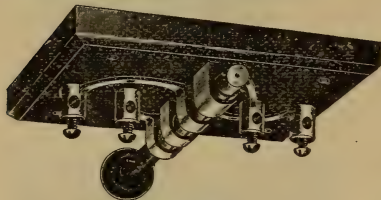




No. 21058.



No. 21060.



No. 21062.

### Stationary Hanger Boards.—(Continued.)

Code Word.	List No.	List Price. Each.
<i>Samster</i>	21058 For Narrow Frame Lamps .....	\$2.75
<i>Samoth</i>	21059 For Wide Frame Lamps .....	3.20
Mounted on Slate.		
For either double or single lamps.		

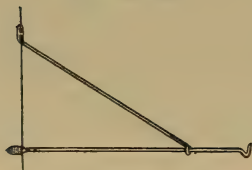
### Hanger Boards.

For Constant Potential Lamps.

<i>Samson</i>	21060 With Binding Terminals .....	2.10
<i>Samill</i>	21061 With Hook Terminals .....	2.10
Mounted on Slate.		

### Kelsh Arc Lamp Hanger Board.

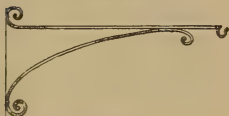
<i>Samist</i>	21062 Each .....	3.00
Mounted on Marbleized Slate.		



No. 8705.



No. 8706.



No. 8707.

### Arc Lamp Hooks.

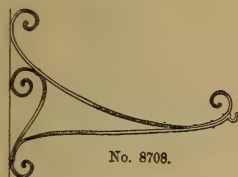
<i>Copiousness</i>	8705 Plain, wrought iron, each .....	1.50
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<i>Copist</i>	8706 Ornamental, each .....	
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<i>Copiant</i>	8707 Ornamental, each .....	
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Prices on Ornamental Brackets quoted on application.

Arc Lamp Hooks—(Continued).



No. 8708.

Code Word.	List No.	List Price.
<i>Copperish</i>	8708	Ornamental, each.....



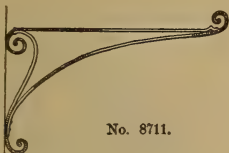
No. 8709.

<i>Coppice</i>	8709	Ornamental, each.....
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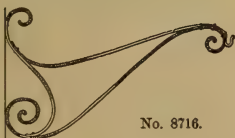
No. 8710.

<i>Coppe</i>	8710	Ornamental, each.....
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No. 8711.

<i>Copula</i>	8711	Ornamental, each.....
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No. 8716.

<i>Copy</i>	8716	Ornamental, each.....
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No. 8717.

<i>Copybook</i>	8717	Ornamental, each.....
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Prices on Ornamental Brackets quoted on application.



No. 21636.

### Lamp Hoods.

These Hoods are made of heavy galvanized iron, japanned, supported by iron frames, with a cast iron base, making the whole very strong and substantial.

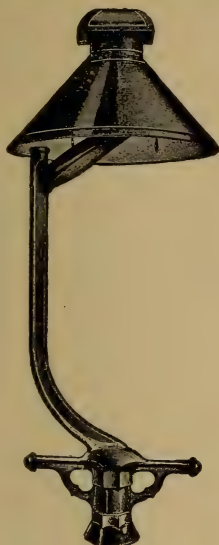
The lamp is suspended from a hanging board provided with a hand cut-out, and firmly fastened inside the Hood.

Code Word.	List No.	List Price. Each
<i>Scoria</i>	21636 Each	\$18.00



No. 2001.

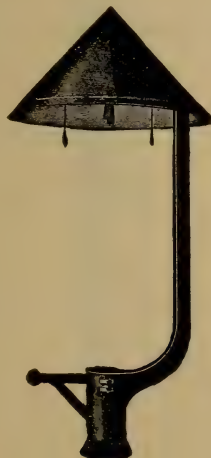
<i>Ease</i>	2001 Each	23.00
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No. 2002.

Lamp Hoods—(Continued)

Code Word.	List No.	List Price.
<i>Easel</i>	2002 Each.....	\$25.00



No 2003.

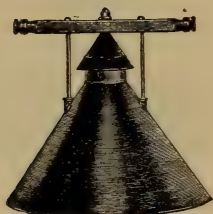
<i>Easily</i>	2003 Each.....	20.00
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No. 2886.

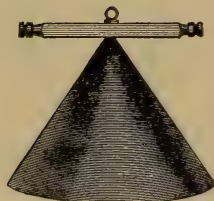
## Lamp Hoods.—(Continued.)

Code Word.	List No.	List Price. Each.
<i>Easiness</i>	2886	Complete ..... \$9.00
<i>Salutatorian</i>	21029	Hood only ..... 3.50
<i>Salutatory</i>	21030	Side Rods and Bracket..... 3.50
<i>Salute</i>	21031	Cut-Out Board ..... 2.00



No. 2887.

<i>Ensemble</i>	2887	Complete with Cut-Out Board.....	5.00
<i>Salute</i>	21032	Hood only .....	3.00



No. 2888.

<i>Easing</i>	2888	Complete with Cut-Out Board.....	4.00
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## Domestic Carbons.

## Solid.

## High Tension Series Arc.

Specify when ordering whether moulded or forced.

Code Word.	List No.	Inches.	List Price. Per 1000.
<i>Salter</i>	20969	7-16 x 12, plain.....	\$13.50
<i>Saltarn</i>	20970	7-16 x 12, coppered.....	13.50
<i>Saltfish</i>	20971	1-2 x 12, plain.....	14.00
<i>Saltfinst</i>	20972	1-2 x 12, coppered.....	14.00
<i>Saltgauge</i>	20973	5-8 x 12, plain.....	19.50
<i>Saltgreen</i>	20974	5-8 x 12, coppered.....	20.50
<i>Saltier</i>	20975	9-16 x 14, plain.....	20.50
<i>Saltierneise</i>	20976	9-16 x 14, coppered.....	22.00
<i>Saltigrade</i>	20977	5-8 x 14, plain.....	21.70
<i>Saltimbanco</i>	20978	5-8 x 14, coppered.....	23.70
<i>Saltine</i>	20979	7-16 x 7, plain.....	6.75
<i>Saltire</i>	20980	7-16 x 7, coppered.....	6.75
<i>Saltish</i>	20981	1-2 x 7, plain.....	7.00
<i>Saltishly</i>	20982	1-2 x 7, coppered.....	7.00
<i>Saltishness</i>	20983	5-8 x 7, plain.....	11.00
<i>Saltjunk</i>	20984	5-8 x 7, coppered.....	12.00
<i>Saltpeter</i>	20985	1-2 x 9, plain.....	9.50
<i>Saltless</i>	20986	1-2 x 9, coppered.....	9.50
<i>Saltlick</i>	20987	5-8 x 9, plain.....	13.00
<i>Saltly</i>	20988	5-8 x 9, coppered.....	13.70

## Coppered Solid Forced.

## For Low Tension Series Arc.

<i>Saltmarsh</i>	20989	7-16 x 12.....	13.50
<i>Saltmine</i>	20990	1-2 x 12.....	14.00
<i>Saltness</i>	20991	5-8 x 12.....	20.50
<i>Saltpan</i>	20992	7-16 x 7.....	6.75
<i>Saltpen</i>	20993	1-2 x 7.....	7.00
<i>Saltperlate</i>	20994	5-8 x 7.....	12.00

## For Constant Potential Lamps.

## Uppers—Soft Cored.

<i>Sault</i>	21091	5-16 x 7 1-2.....	9.50
<i>Sauncingbell</i>	21092	3-8 x 7 1-2.....	12.00
<i>Saunders</i>	21093	7-16 x 7 1-2.....	13.50
<i>Saundersblue</i>	21094	1-2 x 7 1-2.....	16.50
<i>Saunter</i>	21095	9-16 x 7 1-2.....	17.50
<i>Saunteret</i>	21096	5-8 x 7 1-2.....	24.00
<i>Saur</i>	21097	5-8 x 8.....	25.50
<i>Sauria</i>	21098	11-16 x 8.....	34.00
<i>Saurian</i>	21099	5-16 x 10.....	13.00
<i>Sauroid</i>	21100	3-8 x 10.....	16.50
<i>Saurophagus</i>	21101	7-16 x 10.....	18.00
<i>Saurg</i>	21102	1-2 x 10.....	22.00
<i>Sausage</i>	21103	9-16 x 10.....	24.00
<i>Sausserite</i>	21104	5-8 x 10.....	32.00
<i>Sauterelle</i>	21105	11-16 x 10.....	38.00





## Domestic Carbons.—(Continued.)

### For Constant Potential Lamps.

#### • Uppers—Soft Cored.

Code Word.	List No.	List Price. Per 1000.
<i>Sautern</i>	21106 23-32 x 10.....	40.00
<i>Saucegarde</i>	21107 5-16 x 12.....	15.00
<i>Savable</i>	21108 3-8 x 12.....	20.00
<i>Savacora</i>	21109 7-16 x 12.....	22.00
<i>Savage</i>	21110 15-32 x 12.....	24.00
<i>Savagely</i>	21111 1-2 x 12.....	26.00
<i>Savageness</i>	21112 9-16 x 12.....	28.00
<i>Savagery</i>	21113 5-8 x 12.....	38.00
<i>Savagism</i>	21114 1-2 x 14.....	30.00
<i>Savana</i>	21115 9-16 x 14.....	33.00
<i>Savant</i>	21116 5-8 x 14.....	44.00
<i>Save</i>	21117 11-16 x 14.....	51.00
<i>Savcull</i>	21118 3-4 x 14.....	58.00

#### Lower—Solid.

<i>Saveley</i>	21119 5-16 x 6.....	6.50
<i>Saver</i>	21120 3-8 x 6.....	8.50
<i>Savin</i>	21121 7-16 x 6.....	9.50
<i>Saving</i>	21122 1-2 x 6.....	12.00
<i>Savingly</i>	21123 7-16 x 7.....	11.00
<i>Savingness</i>	21124 1-2 x 7.....	14.00
<i>Savingsbank</i>	21125 9-16 x 7.....	15.00
<i>Savor</i>	21126 5-8 x 7.....	20.00
<i>Savorily</i>	21127 5-16 x 7 1-2.....	10.00
<i>Savoriness</i>	21128 3-8 x 7 1-2.....	11.00
<i>Savorless</i>	21129 7-16 x 7 1-2.....	12.00
<i>Savorly</i>	21130 1-2 x 7 1-2.....	15.00
<i>Savorous</i>	21131 9-16 x 7 1-2.....	16.00
<i>Savory</i>	21132 5-8 x 7 1-2.....	21.50
<i>Savoy</i>	21133 1-2 x 8.....	16.00
<i>Savoyard</i>	21134 5-8 x 8.....	23.00
<i>Saw</i>	21135 5-16 x 9 1-2.....	10.00
<i>Savoie</i>	21136 3-8 x 9 1-2.....	13.50
<i>Sampan</i>	21137 7-16 x 9 1-2.....	15.50
<i>Samphine</i>	21138 1-2 x 9 1-2.....	19.00
<i>Sample</i>	21139 5-16 x 10.....	11.00
<i>Sampler</i>	21140 3-8 x 10.....	14.50
<i>Samshoo</i>	21141 7-16 x 10.....	16.00
<i>Samshu</i>	21142 1-2 x 10.....	20.00
<i>Samsons</i>	21143 3-8 x 12.....	17.00
<i>Samsonspost</i>	21144 7-16 x 12.....	19.00
<i>Sanability</i>	21145 15-32 x 12.....	21.00
<i>Sanable</i>	21146 1-2 x 12.....	24.00
<i>Sanableness</i>	21147 17-32 x 12.....	25.00
<i>Sanation</i>	21148 9-16 x 12.....	26.00
<i>Sanative</i>	21149 5-8 x 12.....	34.00



## Domestic Carbons.—(Continued.)

## High Tension Series Arc Cored.

## Uppers—Cored.

Code Word.	List No.	Inches.	List Price. Per 1000.
<i>Sanativeness</i>	21150	7-16 x 12	10.00
<i>Sanatory</i>	21151	1-2 x 12	10.00
<i>Sanbenito</i>	21152	5-8 x 12	13.50
<i>Sanecbell</i>	21153	1-2 x 14	11.50
<i>Sanecbell</i>	21154	9-16 x 14	14.00
<i>Sanetificate</i>	21155	5-8 x 14	16.00
<i>Sanetification</i>	21156	11-16 x 14	18.00
<i>Sanetimonius</i>	21157	3-4 x 14	20.00

## Special Bottoms—Solid.

<i>Sanetimony</i>	21158	7-16 x 7	5.00
<i>Sanction</i>	21159	1-2 x 7	5.00
<i>Sanctionary</i>	21160	5-8 x 7	6.50
<i>Sanctitude</i>	21161	5-8 x 9	8.25
<i>Sanctify</i>	21162	3-8 x 10	7.25
<i>Sanctum</i>	21163	1-2 x 10	8.25
<i>Sanctus</i>	21164	3-8 x 12	8.50
<i>Sand</i>	21165	7-16 x 12	9.00
<i>Sand</i>	21166	15-32 x 12	9.50
<i>Sand</i>	21167	1-2 x 12	10.00

## “Helios.”

## Direct Current Carbons.

## Cored.



Millimeters	Inches.	Price.	Millimeters	Inches.	Price.
12 x 160	15-32 x 6 5/16	\$14.00	10 x 255	3-8 x 10	\$16.60
15 x 160	19-32 x 6 5/16	18.50	11 x 255	7-16 x 10	18.40
18 x 160	23-32 x 6 5/16	26.00	12 x 255	15-32 x 10	20.00
8 x 190	5-16 x 7 1/2	9.60	13 x 255	1-2 x 10	22.15
10 x 190	3-8 x 7 1/2	12.35	14 x 255	9-16 x 10	24.00
11 x 190	7-16 x 7 1/2	13.75	15 x 255	19-32 x 10	27.50
12 x 190	15-32 x 7 1/2	15.00	16 x 255	5-8 x 10	32.25
13 x 190	1-2 x 7 1/2	16.50	18 x 255	23-32 x 10	40.00
14 x 190	9-16 x 7 1/2	17.85	20 x 255	25-32 x 10	48.00
15 x 190	19-32 x 7 1/2	20.50	25 x 255	1 x 10	70.00
16 x 190	5-8 x 7 1/2	24.00	8 x 305	5-16 x 12	15.40
18 x 190	23-32 x 7 1/2	31.00	10 x 305	3-8 x 12	20.00
13 x 205	1-2 x 8	17.80	11 x 305	7-16 x 12	22.00
16 x 205	5-8 x 8	25.75	12 x 305	15-32 x 12	24.00
18 x 205	23-32 x 8	33.00	13 x 305	1-2 x 12	26.40
12 x 240	15-32 x 9 1/2	19.00	14 x 305	9-16 x 12	28.65
15 x 240	19-32 x 9 1/2	27.00	15 x 305	19-32 x 12	33.00
18 x 240	23-32 x 9 1/2	39.00	16 x 305	5-8 x 12	38.60
8 x 255	5-16 x 10	12.90	18 x 305	23-32 x 12	50.00



## Domestic Carbons—(Continued.)

## "Helios."—(Continued.)

## Direct Current Carbons.

## Solid.

Millimeters.	Inches.	Price.	Millimeters.	Inches.	Price.
8 x 160	5-16 x 6 5-16	\$ 7.00	14 x 190	9-16 x 7 1-2	\$16.50
10 x 160	3-8 x 6 5-16	9.25	15 x 190	19-32 x 7 1-2	19.00
12 x 160	15-32 x 6 5-16	11.75	16 x 190	5-8 x 7 1-2	22.00
8 x 150	5-16 x 6	6.50	10 x 205	3-8 x 8	11.60
10 x 150	3-8 x 6	8.65	12 x 205	15-32 x 8	15.00
11 x 150	7-16 x 6	9.75	13 x 205	1-2 x 8	16.00
12 x 150	15-32 x 6	11.00	8 x 240	5-16 x 9 1-2	10.40
13 x 150	1-2 x 6	12.00	10 x 240	3-8 x 9 1-2	13.80
14 x 150	9-16 x 6	13.00	11 x 240	7-16 x 9 1-2	15.60
15 x 150	19-32 x 6	15.00	12 x 240	15-32 x 9 1-2	17.60
16 x 150	5-8 x 6	17.35	13 x 240	1-2 x 8 1-2	19.10
11 x 180	7-16 x 7	11.70	14 x 240	9-16 x 9 1-2	20.80
13 x 180	1-2 x 7	14.35	15 x 240	19-32 x 9 1-2	24.00
14 x 180	9-16 x 7	15.65	16 x 240	5-8 x 9 1-2	27.75
15 x 180	19-32 x 7	18.00	10 x 255	3-8 x 10	14.70
16 x 180	5-8 x 7	20.85	12 x 255	15-32 x 10	18.70
8 x 190	5-16 x 7 1-2	8.25	13 x 255	1-2 x 10	20.00
10 x 190	3-8 x 7 1-2	11.00	15 x 255	19-32 x 10	25.50
11 x 190	7-16 x 7 1-2	12.35	16 x 255	5-8 x 10	29.00
12 x 190	15-32 x 7 1-2	13.90	11 x 305	7-16 x 12	19.50
13 x 190	1-2 x 7 1-2	15.15	13 x 305	1-2 x 12	24.00

## Helios Cored Carbons.

## Alternating.

Millimeters.	Inches.	Price.	Millimeters.	Inches.	Price.
11 x 240	7-16 x 9 1-2	\$19.00	15 x 150	19-32 x 6	\$18.50
12 x 160	15-32 x 6 5-16	14.00	15 x 160	19-32 x 6 5-16	19.00
12 x 240	15-32 x 9 1-2	20.00	15 x 190	19-32 x 7 1-2	22.50
12 x 280	15-32 x 11	23.50	15 x 205	19-32 x 8	24.00
13 x 150	1-2 x 6	14.25	15 x 240	19-32 x 9 1-2	28.00
13 x 160	1-2 x 6 5-16	15.00	15 x 255	19-32 x 10	29.50
13 x 190	1-2 x 7 1-2	17.50	15 x 280	19-32 x 11	32.00
13 x 205	1-2 x 8	19.00	16 x 190	5-8 x 7 1-2	25.00
13 x 240	1-2 x 9 1-2	22.00	16 x 205	5-8 x 8	27.00
13 x 255	1-2 x 10	23.50	16 x 240	5-8 x 9 1-2	31.00
13 x 280	1-2 x 11	25.50	16 x 255	5-8 x 10	33.00
14 x 190	9-16 x 7 1-2	21.00	20 x 160	25-32 x 6 5-16	30.00
14 x 240	9-16 x 9 1-2	25.50	20 x 240	25-32 x 9 1-2	45.00



## Imported Carbons.

"Sun-Schmelzer-Nurnberg."

## Cored Carbons for Direct Current.

Code Word.	List No.	Diam. in MM.	Diam. in ins.	Length in ins.	List Price Per 1000
<i>Sandmyrtle</i>	21198	11	7-16 x	7 1-2	\$11.50
<i>Sandmartin</i>	21199	11	7-16 x	10	14.00
<i>Sandpaper</i>	21200	11	7-16 x	12	17.10
<i>Sandpiper</i>	21201	13	1-2 x	7 1-2	13.55
<i>Sandpride</i>	21202	13	1-2 x	10	17.85
<i>Sandrock</i>	21203	13	1-2 x	12	21.00
<i>Sandsmelt</i>	21204	14	9-16 x	7 1-2	14.45
<i>Sandstur</i>	21205	14	9-16 x	10	19.00
<i>Sandstone</i>	21206	14	9-16 x	12	22.85
<i>Sandstorm</i>	21207	15	19-32 x	6 1-2	16.60
<i>Sandtube</i>	21208	16	5-8 x	7	17.50
<i>Sandwasp</i>	21209	16	5-8 x	7 1-2	19.00
<i>Sandwich</i>	21210	16	5-8 x	10	25.00
<i>Sandworm</i>	21211	16	5-8 x	12	30.00
<i>Sandwort</i>	21212	18	11-16 x	10	37.80

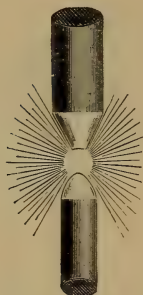
## Solid Carbons for Direct Current.

<i>Sandy</i>	21213	8	5-16 x	6	5.50
<i>Sane</i>	21214	8	5-16 x	7 1-2	7.20
<i>Saneless</i>	21215	8	5-16 x	9 1-2	9.15
<i>Sang</i>	21216	10	3-8 x	6	7.15
<i>Sangree</i>	21217	10	3-8 x	6 1-2	7.75
<i>Sangfroid</i>	21218	10	3-8 x	7 1-2	9.05
<i>Sangiac</i>	21219	10	3-8 x	9 1-2	11.40
<i>Sangreal</i>	21220	11	7-16 x	6	7.85
<i>Sangrifer</i>	21221	11	7-16 x	7	9.16
<i>Sanguify</i>	21222	11	7-16 x	7 1-2	9.90
<i>Sanguinary</i>	21223	11	7-16 x	8 1-2	11.20
<i>Sanguine</i>	21324	11	7-16 x	9 1-2	12.55
<i>Sanguineless</i>	21225	11	7-16 x	12	15.70
<i>Sanguinely</i>	21226	13	1-2 x	6	9.30
<i>Sanguinity</i>	21227	13	1-2 x	7	10.85
<i>Sanketrim</i>	21228	13	1-2 x	7 1-2	11.80
<i>Sankle</i>	21229	13	1-2 x	9 1-2	14.85
<i>Sankies</i>	21230	13	1-2 x	12	18.60
<i>Sankious</i>	21231	14	9-16 x	7	12.40
<i>Sankilurist</i>	21232	16	5-8 x	7	19.15

## Cored Carbons for Alternating Current.

<i>Sanitarium</i>	21233	13	1-2 x	7 1-2	17.20
<i>Sanitary</i>	21234	13	1-2 x	9 1-2	21.80
<i>Sanity</i>	21235	15	19-32 x	7 1-2	22.00
<i>Sanjek</i>	21236	15	19-32 x	9 1-2	27.80
<i>Sank</i>	21237	16	5-8 x	9 1-2	31.45





## Imported Carbons.

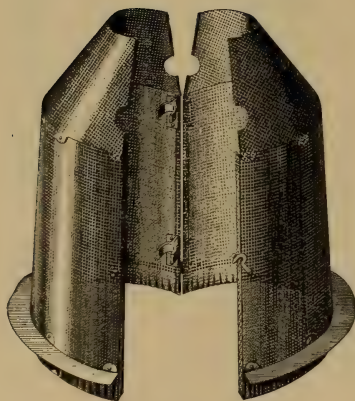
Wertheim.

Solid.

Code Word.	List No.		List Price. Per 1000 Feet.
<i>Sandbag</i>	21172	1-4 inch.....	\$ 9.00
<i>Sandball</i>	21173	5-16 ".....	11.50
<i>Sandbath</i>	21174	3-8 ".....	13.50
<i>Sandblind</i>	21175	7-16 ".....	16.00
<i>Sandbox</i>	21176	1-2 ".....	19.00
<i>Sandbortree</i>	21177	17-32 ".....	21.00
<i>Sandcrack</i>	21178	9-16 ".....	22.50
<i>Sanddrift</i>	21179	5-8 ".....	28.00
<i>Sanded</i>	21180	11-16 ".....	33.00
<i>Sandemania</i>	21182	3-4 ".....	38.00
<i>Sanderling</i>	21183	7-8 ".....	53.00
<i>Sandus</i>	21184	1 ".....	75.00

Soft Cored.

<i>Sandflea</i>	21186	1-4 inch.....	10.00
<i>Sandflood</i>	21187	5-16 ".....	13.00
<i>Sandfly</i>	21188	3-8 ".....	15.00
<i>Sandglass</i>	21189	7-16 ".....	17.50
<i>Sandgrouse</i>	21190	1-2 ".....	21.00
<i>Sandkipper</i>	21191	9-16 ".....	24.50
<i>Sandbeat</i>	21192	5-8 ".....	30.00
<i>Sandiness</i>	21193	11-16 ".....	36.00
<i>Sandish</i>	21194	23-32 ".....	40.00
<i>Sandixer</i>	21195	3-4 ".....	42.00
<i>Sandix</i>	21196	7-8 ".....	58.00
<i>Sandlaunce</i>	21197	1 ".....	80.00



No. 21267.

## Spark Arresters.

Perforated.

These Arresters are made of perforated steel sheet, with a rim of thin iron sheet which rests upon the globe of the lamp. They swing open with hinges at the back. Made in three different sizes adapting them for use on Western Electric Arc Lamps. With slight alterations they can be used on Arc Lamps of other standard makes.

Approved by the Board of Underwriters and are especially indorsed as being a perfect safeguard against fire and insects.

They are thoroughly Japanned.

When ordering specify style of lamp on which these Arresters are to be used.

*Sapindus* 21267 Each ..... Each. 2.60

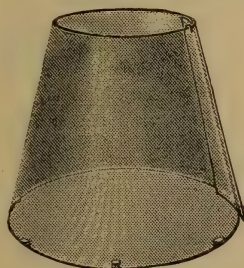


No. 21355.

### Spark Arresters—(Continued.)

Arrester No. 21355, made with heavy frame and fine wire gauze. Hinges at back and fitted with latch in front. Standard size 12 inches high; diameter at bottom 10 inches; diameter at top  $6\frac{3}{4}$  inches.

Code Word.	List No	List Price. Each.
<i>Sarcodemut</i>	21355 Each .....	\$2.50



No. 21356.

#### Adjustable.

We manufacture these arresters in two heights—5 inches and  $7\frac{1}{2}$  inches. They can be adjusted to fit any size of globe.

In ordering please state whether for wide or narrow frame lamps.

<i>Sarcoline</i>	21356	Narrow frame, each .....	1.20
<i>Sarcotile</i>	21357	Wide frame.....	1.50



No. 8725.

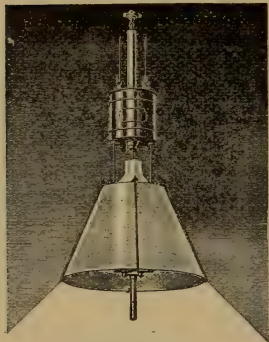
### Carbon Bags.

<i>Eust</i>	8725	Tin Carbon Case .....	1.25
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No. 8726.

<i>Ebenzer</i>	8726	Extra Heavy Leather Carbon Case.....	4.25
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No. 21055.

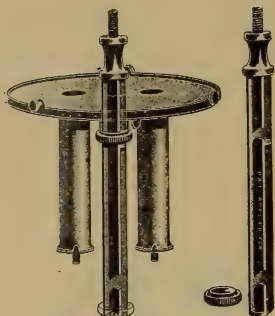
### Rae Store Reflector.

For T.-H. Double Carbon Lamps.

Has a special opal shade which concentrates the bulk of the light on the goods, thus utilizing the light commonly wasted on the ceiling. Combines the intensity of the arc-lamp with a uniform and effective distribution of the light. Also has a clear glass chimney (with opal ventilating top) which serves as a spark arrester, thus making a complete fitting for Arc Lamps in store or show windows.

Does not interfere with the trimming of the lamp.  
Approved by New York and Chicago underwriters.

Code Word.	List No.	List Price. Each.
<i>Sambro</i>	21055 Complete.....	\$5.00



No. 21056.

### Cutter's Globe Holder.

For T.-H. Arc Lamps.

'A Time Saver and a Globe Saver.'

Takes the place of the sliding tube and set-screw formerly used. It has no tube to dent and crack, and no screw to jam or bend. A quarter turn of the ring allows the globe to be lowered or raised, and another quarter turn removes it entirely. It is simple, strong and positive in its action. The globe is held securely when raised, yet can be instantly lowered without the use of tools.

<i>Sambuke</i>	21056 Rod and Ring complete.....	.30
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No. 21057.

### Pattee Lamp-Hour Recorder.

"A Common Sense Meter for Arc Lamps."

(PATENTED.)

Has a fifteen-day clock movement which is controlled by an electro-magnet so as to keep an accurate count of the burning hours. Needs re-winding but once a month (when the readings are taken). The magnets consume an inappreciable amount of energy and the reading is easily checked by comparison with a watch, so that there can be no complaints from the consumer.

It is simple, well built and practical.

<i>Sambness</i>	21057 Complete.....	12.00
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No. 626.

## Arc Lamp Globes.

Our Arc Globes are of the best quality of glass and uniform in appearance. They are carefully packed, but shipped only at owner's risk. Two dozen globes are packed in regular size cask, for which we charge \$1.50 extra net.

## Clear.

Code Word.	List No.	Diameter. Inches.	Height. Inches.	Top Open- ing. Inches.	Bottom Open- ing. Outside Diam. Inches.	List Price. Per Dozen
<i>Kissed</i>	626	12	12	6	2½	\$11.00
<i>Kissing</i>	627	12	12	8	3½	11.00
<i>Kitchen</i>	628	12	12	8	5	11.00
<i>Kite</i>	629	12	12	7½	3½	11.00
<i>Kitling</i>	630	12	10	8	4	11.00
<i>Kitten</i>	631	12	12	8	5	11.00
<i>Knack</i>	632	12	12	8	2½	11.00
<i>Knackish</i>	633	12	11	9	4½	11.00
<i>Knave</i>	634	11	12	8	4½	11.00
<i>Knavery</i>	635	11	12	8	4½	11.00

## Opal.

<i>Knarish</i>	636	12	12	6	2½	12.00
<i>Knarishly</i>	637	12	12	8	3½	12.00
<i>Knarishness</i>	638	12	12	8	5	12.00
<i>Knee</i>	639	12	12	7½	3½	12.00
<i>Kneel</i>	640	12	10	8	4	12.00
<i>Kneeled</i>	641	12	12	8	5	12.00
<i>Kneeler</i>	642	12	12	8	2½	12.00
<i>Kneeling</i>	643	12	11	9	4½	12.00
<i>Kneelingly</i>	644	11	12	8	4½	12.00
<i>Kneepan</i>	645	11	12	8	4½	12.00

## Ground.

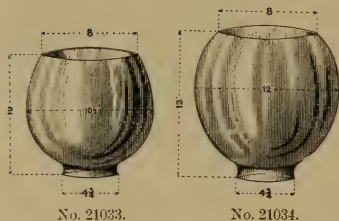
<i>Knell</i>	646	12	12	6	2½	12.00
<i>Knelt</i>	647	12	12	8	3½	12.00
<i>Knight</i>	648	12	12	8	5	12.00
<i>Knighted</i>	649	12	12	7½	3½	12.00
<i>Knighthood</i>	650	12	10	8	4	12.00
<i>Knighting</i>	651	12	12	8	5	12.00
<i>Knightless</i>	652	12	12	8	2½	12.00
<i>Knightly</i>	653	12	11	9	4½	12.00
<i>Knit</i>	654	11	12	8	4½	12.00
<i>Knitter</i>	655	11	12	8	4½	12.00

## Arc Lamp Globes.—(Continued.)

## Globes for Western Electric Arc Lamps.

Arc Light Globes can be furnished in colors, but prices are governed by the quantity. In handling Arc Light Globes extra charge is made for packing when orders are less than original packages.

## Clear.

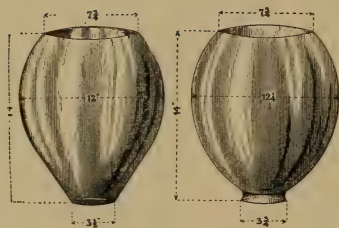


No. 21033.

No. 21034.

Code Word.	List No.	Diam. in ins.	Height inches.	Top Opening in ins.	Bottom Opening in ins.	List Price. Per doz.
<i>Salutiferous</i>	21033	10½	10	8	4¾	\$11.00
<i>Salutability</i>	21034	12	12	8	4¾	11.00
<i>Saluteable</i>	21035	12	14	7¾	3½	14.00
<i>Saluteableness</i>	21036	12¼	14	7¾	3½	14.00

## One-Quarter or One-Half Ground.



No. 21035.

No. 21036.

<i>Salteage</i>	21037	10½	10	8	4¾	12.00
<i>Salteatella</i>	21038	12	12	8	4¾	12.00
<i>Salteation</i>	21039	12	14	7¾	3½	16.00
<i>Salteatory</i>	21040	12¼	14	7¾	3½	16.00

## Full Ground or Opal.

<i>Salte</i>	21041	10½	10	8	4¾	13.00
<i>Salteer</i>	21042	12	12	8	4¾	13.00
<i>Salteershaped</i>	21043	12	14	7¾	3½	18.00
<i>Salteia</i>	21044	12¼	14	7¾	3½	18.00

## Alabaster.

<i>Salteiffe</i>	21046	7	10	7	7	20.00
<i>Salteo</i>	21047	7	4½	7	7	20.00

No. 21033 is for the old style, low tension Western Electric Arc Lamps.

No. 21034 is for both the wide and narrow frame Western Electric Standard Lamps; also for either the Monitor or Duplex Lamps, both wide and narrow frame, and the old style double Carbon lamps.

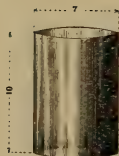
No. 21035 is for the ornamental series lamps and the ornamental constant potential lamps.

No. 21036 is for the encased single lamps and new style double Carbon lamps, narrow frame.

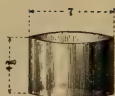
No. 21046 is for ornamental series single Carbon lamp fitting above the regular globe.

No. 21047 is for the ornamental constant potential lamp fitting above the regular globe.

Both No. 21046 and 21047 act in a measure as spark arresters, as all of the working parts, the carbons and carbon rods are within an enclosed space. The use of these globes meets the approval of the underwriters.

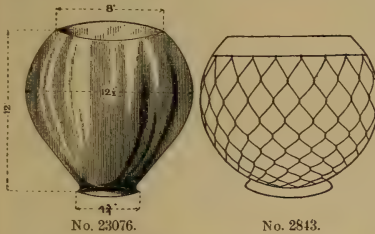


No. 21046.



No. 21047.





No. 23076.

No. 2843.

### Arc Light Globes—(Continued.)

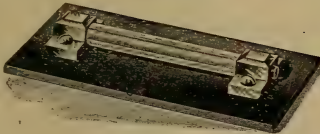
#### Globes for Western Electric Arc Lamps—(Continued.)

Code Word.	List No.	Diam. in. ins.	Height in. ins.	Top Opening in. ins.	Bottom Opening in. ins.	List Price per doz.
<i>Silly</i>	23076	12 1/2	12	8	4 1/2	16.00

Above Globe for Western Electric Focusing Chain Lamp.



No. 21353.



No. 21354.

### Globe Nets.

<i>Bagerness</i>	2843	Arc Globe Net, copper, each.....	.40
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### Static Arresters.

Electric discharge from belts will often perforate the insulating material of a dynamo or of cables connected thereto. Our arresters form a high resistance path for the electrical discharge from the frame of the dynamo to ground. They are made in two styles, No. 1 Graphite, No. 2 Liquid.

<i>Sarcodern</i>	21353	Graphite, each .....	1.40
<i>Sarcoid</i>	21354	Liquid " .....	1.70

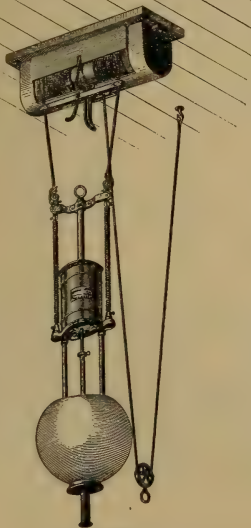
### Improved Adjustable Lamp Hanger.

This Hanger is designed for use with any form of arc lamp, either high or low tension, and is well adapted for operation of arc lamps upon incandescent circuits.

The important features in connection with this hanger are the suspension of the lamps by the conducting cords direct, insuring perfect electrical contacts and adequate support. The ratchet and arm are so combined with the rope used in raising and lowering the lamp, that breakage of the rope or careless handling cannot cause the lamp to fall. The automatic switch so constructed that when the lamp is lowered it is completely disconnected from the circuit and when raised to the proper height it is again placed in circuit—this being done automatically insures absolute safety for the attendant and avoids interference with other lamps on the same circuit.

These Hangers are mounted upon slate bases, equipped with brass terminals having perfect electrical connection with the roller mechanism and switch. The roller is made of cast iron and coated with glazed enamel, then covered with sheet asbestos, thus forming a positive insulation. An enameled iron cover is provided which adds to the appearance and serves as a protection to the cords and working parts. Conducting cords of any desired length within the capacity of the roller will be supplied, adapting the hanger for use on ceilings varying in height twenty-five feet down, or to be readily adjusted to different heights as circumstances may require.

This hanger has been approved by the Board of Underwriters.

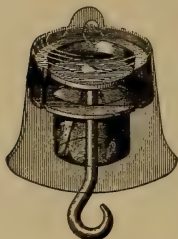


No. 21360.

Showing Lamp attached.

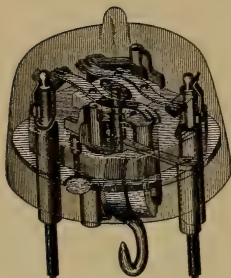
<i>Sarcology</i>	21360	Complete, with cord .....	30.00
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### Bell Hanger.



No. 23077.

Code Word.	List No.	List Price. Each.
<i>Silure</i>	23077 Bell Hanger .....	\$1.40



No. 21358.

### Cut-Off Switch.

The complete Cut-off Switch is mounted on slate, and contacts are so arranged that no arc can be made in throwing on or off. The lamp is suspended from the hook in center, and is not in any manner dependent on the circuit wires for support, connection being made with circuit by means of plugs and suitable spring jacks, enabling the removal of the lamp from the circuit in less time than one-half minute, and with no personal danger. The casing and bell covering insulator are of metal, and render all the contacts thoroughly waterproof.

<i>Sarcologic</i>	21358 Complete, with plugs and cords .....	8.00
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No. 21359.

### Bell Hanger and Cut-Off Switch Combined.

It is advisable in case of high voltage to use the Bell Hanger in connection with the Cut-off Switches to insure perfect safety. This combination is shown in illustration No. 21359.

<i>Sarcologicist</i>	21359 Complete, with bell hanger .....	9.40
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No. 8703.

## Fletcher Insulating Arc Lamp Hangers.

(PATENTED.)

Are not only convenient for attaching lamps to their fastenings in all positions, but save loss of current from any and all conditions to which lamps may be subjected.

Code Word.	List No.	List Price
<i>Ecliptic</i>	8703 Each.....	Each. \$0.50



No. 20895.

## Fletcher Insulating Lamp Hanger.

Three Knobs.

(PATENTED.)

Same as No. 8703, with the addition of a knob on each side, to which current wires may be attached before entering binding posts of arc lamps. Especially useful where commercial lamps are placed in front of or inside stores, hotels, theatres, etc.

<i>Salicene</i>	20895 Complete.....	.60
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No. 20777.

## Cutter Revolute Insulator.

For Arc Lamps.

Has the insulating knob mounted on a porcelain base so as to turn freely, and is secured to the ceiling by two screws. Makes a firm support with a double insulation between the wire and the ceiling.

The insulating knob can be easily removed and the wire placed above it, taking the weight off the tie wire.

<i>Safeconduct</i>	20777 Complete, each .....	.12
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No. 20896.

## Cutter Ceiling Hook.

For Arc Light Wiring.

A simple, compact and strong insulator for supporting indoor arc lamps. The shell and hook are of malleable iron, while the porcelain is solid at the back so as to exclude moisture. The hook is so shaped that the lamp cannot be accidentally lifted off it in trimming.

<i>Salicomia</i>	20896 Complete .....	.30
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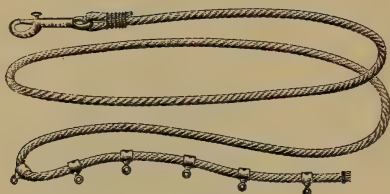
No. 20776

### Cutter Arc Insulator.

It will insulate the frame of the lamp from the hoisting rope or suspension hook.

Made with a double petticoat hard rubber bell, which forms an effective watershed.

Code Word.	List No.	List Price. Each.
<i>Safe</i>	20776 Complete.....	\$ .40

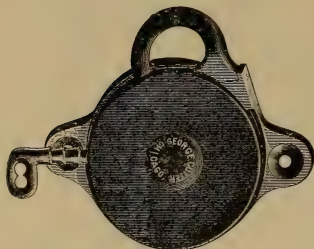


No. 20897.

### Cutter Trimmer's Snap Rope.

Consists of a 30-foot length of half-inch rope with a snap-hook at one end and six rings clamped to the rope near the other end. This is used with hoisting ropes ending in a ring at the pole lock, and is carried by the trimmer on his rounds. The rings on the rope can readily be set at any desired points so as to vary the length of the "snap rope" to suit the varying height of lamps at different crossings.

<i>Satisfactory</i>	20897 Complete.....	1.25
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No. 20898.

### Cutter Pole Lock.

(PATENT APPLIED FOR.)

A weather-proof lock for securing the end of the hoisting rope, as used with arc or incandescent suspension lamps. Is quickly put up and prevents tampering with the rope.

Has the back curved to fit the pole, is strong and perfectly weather-proof. The only pole lock adapted for electric light suspensions.

<i>Satisfactory</i>	20898 Complete.....	.40
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No. 20899.

### Fletcher Improved Pole Padlock.

Very necessary for use where flexible iron cord is used with ring attachment at end. By using this Padlock the trimmer needs only a bridle-snap and piece of rope of sufficient length to lower his lamps.

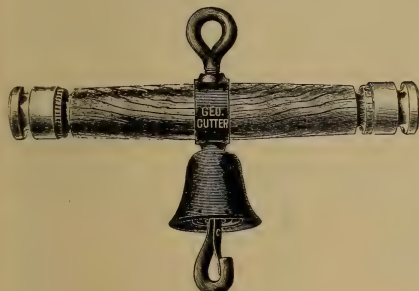
<i>Satisfactory</i>	20899 Complete.....	.40
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No. 2852.

### Lamp Cross Arm.

Code Word.	List No.	List Price.
<i>Economy</i>	2852 Each	\$ 0.20



No. 20778.

### Cutter Combination Cross Arm.

Combines the fine and weatherproof Cutter's Arc Insulator, with a spreader cross-arm for the line wires. The cross-arm is of enameled wood, tipped with metal ferrules to prevent splitting.

<i>Safeguard</i>	20778 Complete	.60
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No. 20879.

### Fletcher Insulated Cross-Arm.

<i>Saleratus</i>	20879 Each	.60
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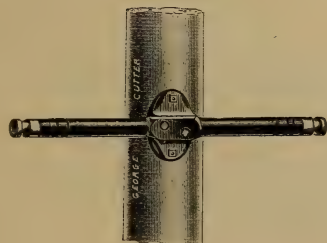
No. 20779.

### Cutter Featherweight Spreader.

For Arc Light Wires.

Is readily fastened to the wires running to suspension lamps so as to keep them at a distance of seventeen inches from each other. Made of enameled wood, metal tipped with porcelain insulators. Weighs less than eight ounces.

<i>Safeguard</i>	20779 Complete, per 100	15.00
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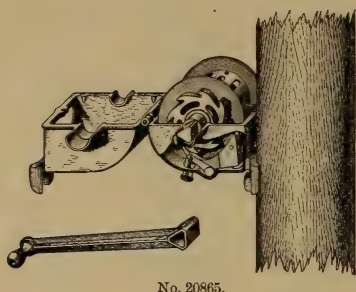
No. 20880.

### Cutter Brace Arm.

This Brace Arm consists of an insulating arm securely bolted to a specially designed plate which fits the pole. It is more easily and more quickly put on than the ordinary cross arm with its pins and insulators, besides making a much neater job.

<i>Sallalberg</i>	20880 Complete	Each. .35
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## Windlasses.

### Western Electric.

The Western Electric Windlass was designed for a quick-raising, self-locking and absolutely safe windlass. The drum is large and entirely enclosed, except a slot at the top for the wire to pass through, and it is thoroughly sleet-proof.

The self-locking device on the side makes it impossible to release without the aid of the special crank.

It is light, compact and durable, and is easy to put in service and will fit any size of pole.

Code Word.	List No.	List Price. Each.
<i>Sake</i>	<b>20865</b> Complete .....	<b>\$3.10</b>
<i>Sacker</i>	<b>20866</b> Without handle.....	<b>2.50</b>
<i>Sackerd</i>	<b>20867</b> Handle only.....	<b>.60</b>

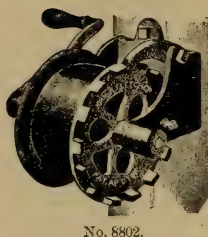


### Cutter Combination.

Combines the extra leverage of a geared windlass with the safety of a locking windlass, and the low cost of a plain windlass. The pinion is detachable, and is secured to the light handle, which also operates the locking cam. One of these pinion handles is sufficient for all the windlasses on a trimmer's route.

You can use this device as a plain windlass for quick lowering, and then use the gearing in raising the lamp. This windlass will take fifty feet of five-sixteenth inch cable, or forty feet of three-eigh inch.

<i>Saki</i>	<b>20868</b> Without Handle .....	<b>2.75</b>
<i>Sal</i>	<b>20869</b> Pinion Handle.....	<b>1.00</b>



### The Fletcher Safety.

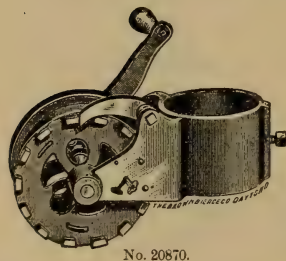
#### For Wood Poles.

#### With Lock and Key.

<i>Edda</i>	<b>8802</b> Fletcher's Safety Windlass (takes 35 feet iron flexible cord).....	<b>2.50</b>
<i>Eddy</i>	<b>8803</b> Fletcher's Safety Windlass (takes 75 feet flexible iron cord, or 40 feet rope).....	<b>3.00</b>
<i>Eden</i>	<b>8804</b> Handle (or Crank) for either above Windlasses.	<b>1.00</b>

#### For Iron Poles.

<i>Salaam</i>	<b>20870</b> Windlass (takes 35 feet iron flexible cord).....	<b>3.50</b>
<i>Satable</i>	<b>20871</b> Windlass (takes 75 feet iron cord or 35 feet half-inch rope).....	<b>4.00</b>
<i>Satably</i>	<b>20872</b> Handle (or crank) for above.....	<b>1.00</b>





No. 8805.

### Fletcher Sleet-proof Pulleys.

Code Word.	List No.	List Price. Each.
<i>Edgar</i>	8805 Medium, for $\frac{1}{2}$ -inch rope.....	\$ .75
<i>Edye</i>	8806 Midget, " $\frac{1}{4}$ -inch rope.....	.50
<i>Edgerise</i>	8807 Jumbo, " 1-inch rope.....	1.00



Fig. 1.

Shows position of cord when lamp is being drawn into suspension.



Fig. 2.

Shows position of cord when lamp is in suspension, with Fletcher's Insulating Lamp Hanger attached. Lamp Hanger is not a requisite part of the arrangement, and is only furnished when specially ordered.

*Edible*

No. 960.

### Fletcher "Sure Grip" Sleet-proof Pulley.

The danger and expense incident to the falling of are lamps from defects in pulleys used with rope or cord suspension, has suggested the need of a good sustaining pulley which, when lamp is drawn up, would hold it rigidly in position. The Fletcher "Sure Grip" Sleet-proof Pulley does this in a simple, effective manner.

No care is required on the part of the trimmer, nor is any extra weight added to weight of lamp when going into suspension; when lamp is in place high winds cannot release it, and trimmer is required to use only the ordinary amount of exertion in lowering it.

960 Fletcher "Sure Grip" Sleet-proof Pulley (takes $\frac{1}{2}$ -inch rope).....	1.50
Includes everything necessary except rope.	



No. 20886.

No. 20887.

No. 20888.

### Fletcher Automatic Pulleys.

<i>Solarial</i>	20886 Automatic Suspension Pulley.....	.80
<i>Solary</i>	20887 Automatic Traveling and Suspension Pulley.....	1.20
<i>Sale</i>	20888 Automatic Mast Arm Pulley.....	.90

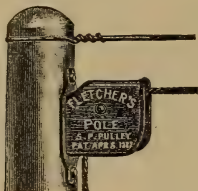
### Fletcher "Safety Lamp Support."

Designed especially to be used where Pulleys are already up; can be used with any Pulley, either Sleet-proof or open, and saves the lamp from falling should ropes become worn or otherwise imperfect.



No. 958.

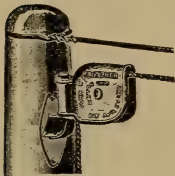
<i>Salebrous</i>	958 Fletcher's Safety Lamp Support.....	.75
(Above price does not include Pulley.)		



No. 8808.

**Fletcher Sleet-proof Pole Pulley.**

Code Word.	List No.	List Price. Each.
<i>Edict</i>	8808 Jumbo (takes 1-inch rope).....	\$0.75
<i>Edifice</i>	8809 Sleet-proof Pole Pulley (takes $\frac{1}{2}$ inch rope)....	.50



No. 20884.

**Fletcher Swivel Pole Pulley.**

<i>Salamanca</i>	20884 Each.....	.60
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No. 8810.

**Fletcher Double Wheel Sleet-Proof Pole Pulleys.**

<i>Edify</i>	8810 Takes $\frac{1}{2}$ -inch rope .....	.75
<i>Edifying</i>	8811 Jumbo (takes 1-inch rope) .....	1.00



No. 8704.

**Fletcher Duplex Sleet-proof Pulley.**

With Two Wheels.

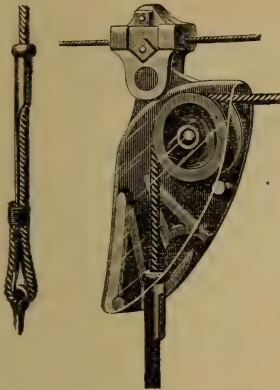
<i>Edil</i>	8704 Takes $\frac{1}{2}$ -inch rope .....	1.00
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No. 20885.

**Fletcher Twin Sleet-proof Pulley.**

<i>Salumstone</i>	20885 Takes $\frac{1}{2}$ -inch rope .....	1.50
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No. 20889.

### Cutter Lamp Supporting Pulley.

A really weatherproof pulley for arc lamps. Entirely automatic, with no cams or pawls to get out of order. Catches the lamp when raised, releases it when about to be lowered, and never fails. There is a dead stop to the rope in each case so that you cannot pull it too far.

Code Word.	List No.	List Price. Each.
<i>Salep</i>	20889 Complete, with Hook Knob.....	\$ .80



No. 20890.

### Cutter Swivel Pole Pulley.

Is swiveled so that it can swing sideways and keep in line with the hoisting rope. The supporting plate is made of malleable iron and curved to fit the pole. This pulley avoids all chafing of the rope on the edge of the casing and thus saves the wear on the rope.

<i>Salework</i>	20890 Complete .....	.40
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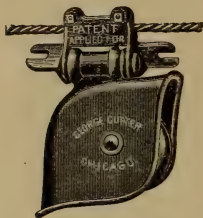
No. 20891.

### Cutter Mast Arm Pulley.

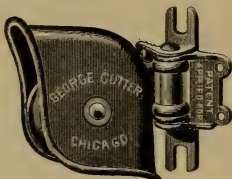
This is a form of the lamp-supporting pulley with a special clamp to fit iron pipe  $1\frac{1}{4}$  or  $1\frac{1}{2}$  in. inside diameter, as commonly used for mast arms.

Has all the good feature of the regular lamp supporting pulley, and has holes in the head-piece so that the strain rods can be run direct to this.

<i>Salework</i>	20891 Complete .....	.90
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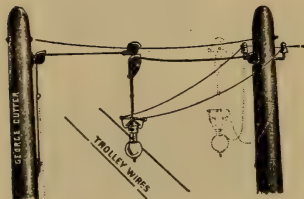
No. 20892.



No. 20893.



No. 20894.



## Cutter Interchangeable Pulley.

(PATENT APPLIED FOR.)

A thoroughly weatherproof pulley which will fit anything from a 3-16 inch suspension wire to an 8 inch pole. Has a double-grooved clamp to fasten it to the suspension wire, when it is used as a center pulley. By opening out the clamp it forms a pole-plate which fits the carved surface of the pole and which makes a fine swivel pole pulley.

Strongly made with malleable iron clamp.

Code Word.	List No.	List Price Each.
<i>Salient</i>	20892 Center Pulley, complete.....	\$ .40
<i>Salic</i>	20893 Pole Pulley, " .....	.40

## Cutter Running Pulley.

(PATENTED.)

The only safety pulley made for use over trolley wires. Holds the lamp securely when raised and allows it to be lowered close to the pole without interfering with the trolley or guard wires.

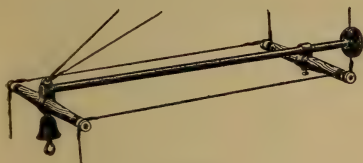
Furnished complete with covered "traveler" sheave, malleable iron hook knob and adjustable clamp stop.

<i>Salicereous</i>	20894 Complete .....	1.20
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## Arc Light Supplies.—(Continued).

## Cutter Outrigger.

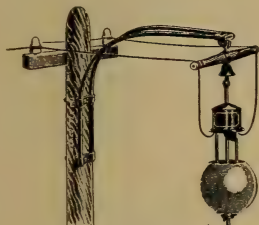


No. 20881.

Has a head-piece of malleable iron with a double petticoat hard rubber bell insulating the lamp from the outrigger. This head-piece forms a cap for the wrought iron outrigger, which can be shortened by removing the cap and cutting off the extra length.

The wood cross-arms carrying the line wire insulators are waterproofed with a baked enamel, and-tipped with metal ferrules to prevent splitting. The inner one is supported by a malleable iron sleeve which can be clamped at any desired point so as to clear signs or projections in the building.

Code Word. List No

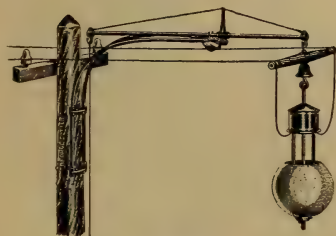
List Price.  
Each.*Salamander* 20881 Complete as per cut (6 foot overhang) \$1.50

No. 20882.

## Cutter Pole Arc Fixture.

Supports the lamp three feet from the pole, so as to bring it out of the line of the shade trees. Can be fastened at any desired height from the top of the pole, fits any size of pole and is more easily put up than a poletop fixture.

Is built of wrought iron with malleable iron fittings, making a very strong, firm and neat fixture. This is assembled before shipping so as to be readily bolted in place. Furnished with "combination cross-arm" for insulating the line wires from the fixture and from the lamp frame.

*Salamandine* 20882 Complete..... 2.50

No. 20883.

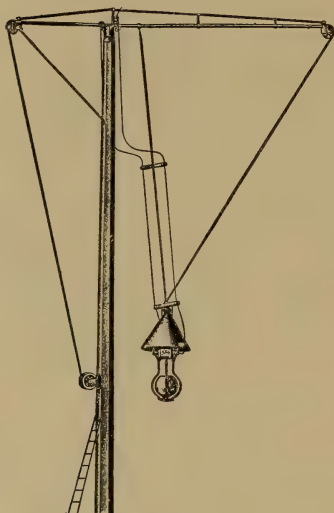
## Cutter Swinging Arc Fixture

Consists of the Pole Arc Fixture with an extension to bring the lamp five feet from the pole. The extension arm is pivoted so that it will swing down within reach of the pole when the lamp is to be trimmed. After trimming the extension is drawn back to place by the wire rod which hooks into a special socket bolted to the pole (but not shown in the cut).

Wrought iron tubing, malleable iron fittings and steel strain rods give the fixture ample strength and firmness, while the "combination cross-arm" insures proper insulation.

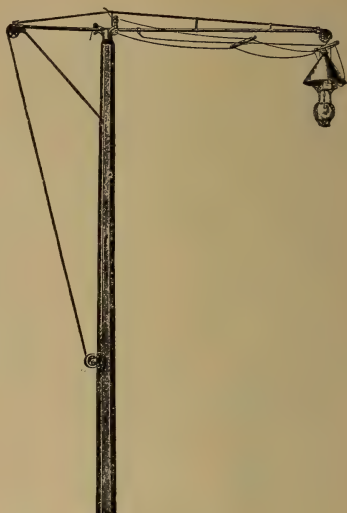
*Salamandroid* 20883 Complete..... 3.50

## The Brady Mast Arm.



No. 2849.

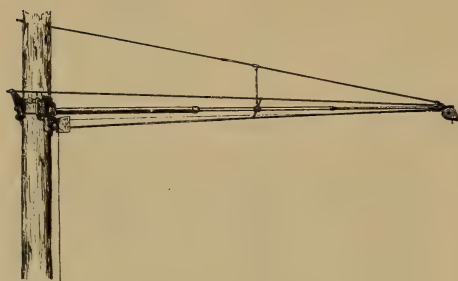
*Ear*      2849 15 Foot Extension, each..... \$20.00  
                  Each additional foot ..... 1.30



No. 2848.

*Eagle*      2848 15 Foot Extension, each..... \$20.00  
                  Each additional foot ..... 1.30

## Western Electric Mast Arm.



No. 23086.

*Silverless* : 23086 10 Foot Mast Arm, including  
                  two covered pulleys..... \$12.00  
                  Each additional foot..... .55

Windlass for Mast Arm extra.

## Cutter Mast Arm.



No. 23087.

*Silverly*      23087 12 Foot Cutter Mast Arm com-  
                  plete with lamp supporting pulley at  
                  outer end and covered pulley at pole, \$12.00  
                  Each additional foot..... .75

Windlass for Mast Arm extra.



W. E. Arc Lamp.



W. E. Enclosed Arc Lamp.

### The W. E. Arc Lamp.

This is a single carbon lamp, thirty-two inches in length over all. A chain having the positive and negative carbon holders attached at its ends is used instead of a feed rod.

None of the mechanism of the lamp is exposed, the collection of dust is prevented, and there is no rod to clean.

Both carbons move at the same speed so that it is only necessary to use carbons of proper diameter to cause the arc to be maintained approximately in a fixed position during the operation of the lamp.

The lamp can be operated without the case on, which makes inspection and adjustment easy. It is not necessary to remove the globe when trimming or cleaning the lamp.

The lamp is practically self-adjusting.

When not in operation the lamp is cut-out by an automatic cut-out.

The case is weather and insect proof, no hood being required for outside lighting.

For interior work the cases are made of bronze of various colors and finish, or of iron enameled, japanned or bronzed.

With ordinary commercial carbons these lamps give from fourteen to fifteen hours service with one trimming at 9.6 amperes, and fifteen to sixteen hours at 6.5 amperes.

No hand switch is provided with this lamp, as it is considered better practice to have the hand switch as a part of hanger to which lamp is suspended.

Prices quoted upon application.

### W. E. Enclosed Arc Lamp.

For constant potential direct current circuits. Gives 150 hours service with each trimming. It is ornamental in appearance and noiseless in operation. Can be adapted, when so ordered, for operating two in series on 220 volt circuits, is less than 32 inches long, simple in construction, easy to trim and perfect in regulation.

Cases finished in black, Japanese copper or polished brass as desired.

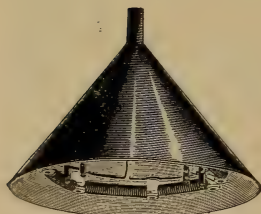
Prices on application.



No. 21085.



No. 21087.



No. 21090.

## Incandescent Arc Lamps.

### For Continuous Current.

The advantages of operating arc lamps on incandescent circuits as a matter of convenience, has of late years been fully realized.

The lamps are placed two in series on a circuit of 110 volts, and are adjusted to consume 10 amperes of current. Each lamp requires 45 volts to maintain a nominal 2000 candle power and the necessary amount of resistance is placed in circuit to compensate for the volts above the number used by the two lamps in series.

By dispensing with the ordinary series magnet in the lamp, and providing the feed magnet with cut-out device adapted to switch the feed magnet out of circuit automatically when the carbons are consumed to a certain point, any possibility of a burn out in a lamp is avoided.

The electrical and mechanical arrangement of the lamp is such that the carbons cannot become short-circuited while the lamp is in operation. Thus when a number of lamps are operated in series on the same circuit, they must necessarily be of the same candle power.

The resistance used with the lamp is connected directly to it as shown in the illustrations, and obviates the disfigurement of the lamp structure. It also facilitates the hanging of the lamp, and overcomes the objections made by the Fire Underwriters to the ordinary form of resistances which are inclosed in boxes placed upon the wall. This resistance may be varied according to the volts lost in the wiring. When it is not convenient to have the resistance connected directly to the lamp we can furnish resistance boxes in place of the coils.

Code Word.	List No.	List Price. Each.
<i>Swatisson</i>	21085 Plain, with resistance coils.....	\$34.00
<i>Sauegbark</i>	21086 Plain, without resistance coils.....	30.00
<i>Sand</i>	21087 Ornamented, with resistance coils.....	48.00
<i>Sauerkraut</i>	21088 Ornamented, without resistance coils.....	44.00
<i>Saul</i>	21089 Resistance Box, only .....	22.00

## Hood for Incandescent Arc Lamp.

### With Resistance.

<i>Saulie</i>	21090 Complete .....	10.00
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## The Kreuger Theater Arc Lamps.

This lamp was designed and is especially adapted for use in theaters, halls and public buildings, and is without question the best means for obtaining brilliant lighting effects for stage work. It takes the place of the calcium light, and is far superior to it in many respects. It is easier to transport, is less dangerous, more reliable, and far more economical.

In the accompanying cut the lamp is shown attached to its supporting stand, equipped with a silvered parabolic reflector, but the lamp is so arranged that the reflector can be quickly and easily removed, and a lens box or Boomerang substituted for it, making it possible to use a single lamp for varied effects.

The illuminating power of the lamp is equal to 3,000 candles, and owing to the simple but ingenious regulating mechanism, the light is maintained at a very constant strength. The lamp is practically noiseless in its operation, and owing to the entire absence of any devices depending upon gravitation in the regulating mechanism, the lamp can be inclined to any desired angle without interfering with its operation and without re-adjustment.

In operating the lamp, connection can be made direct to the supply wires of a 110 volt constant potential lighting system, observing that the current passes downward through the carbons, and under these conditions the rheostat in the perforated cone at the base of the lamp will restrict the current passing through the lamp to the proper strength.



No. 20873.

## Attachments for Kreuger Theater Lamp.

The lens box is used when it is desired to concentrate the rays of light more or less according to adjustment. It is very useful in cases where it is desired to throw a strong stream of light upon a moderate sized object upon the stage, or to follow an object in its movements.

The Boomerang is used when a uniform dispersion of light over a considerable area is desired, which result is secured by means of a ground glass front. In front of the ground glass is provided a color frame, open at both sides so that frames can be slid through in succession and the colors changed without showing the white light.

These lamps and attachments are carried in stock and can be supplied promptly on receipt of order.



No. 20875

Code Word.	List No.	List Price. Each.
<i>Salacious</i>	20873	Lamp, Stand and Rheostat..... \$90.00
<i>Salaciously</i>	20874	Portable Lamp Rheostat..... 25.00
<i>Salucity</i>	20875	Lens Box..... 24.60
<i>Salut</i>	20876	Single Boomerang..... 80.00
<i>Salude</i>	20877	Double Boomerang..... 140.00
<i>Saluding</i>	20878	Glass Lined Reflector..... 43.00
<i>Salucity</i>	21082	Enameled Copper Reflector..... 10.00
<i>Saluciness</i>	21083	Reflector Front..... 2.10
<i>Salucisse</i>	21084	Set of 5 Colors..... 12.60
<i>Suintologist</i>	20862	Plugs and Receptacle..... 3.20



## The Rushmore Projectors and Search-Lights.

## Type "A" Projector.

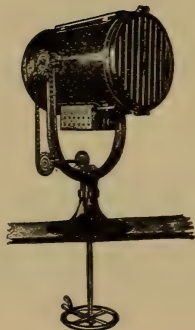


Type "A."

This is a high power Projector, possessing all the advantages of the best lights formerly used in the Navies, giving an intensity estimated at one million candle power per ampere in the arc, and is entirely free from the complicated mechanism which has made it necessary for every warship to carry a corps of "Search Light Experts" to keep them in working order. The apparatus consists essentially of a cylinder which is entirely empty except for the slender carbon holders which cast no shadow, and the lamp is placed in a small case below the cylinder. In the rear cover is mounted the new lens mirror, and the arrangement, as will be seen by the following illustrations, is such that all the light from the carbons is thrown upon it. There is no light lost, and by reason of the central position of the carbons it is possible with the new lens to cause the light to be projected in a narrow beam, spreading to but 100 feet at a mile distance, or to spread it out as wide as desired for making landings, etc., which is accomplished by simply turning a small hand wheel shown on the lower lamp case. This device dispenses with the heavy and costly double diverging lenses placed in the front of the old navy lights, which are a constant expense and annoyance by breaking.

This type projector is designed particularly for the largest steamships, but is made in all sizes down to the smallest yacht light, as will be seen by price list.

Diameter. inches.	Amperes.	Plain Iron Japanned	Plain Iron Polished Brass Cylinder.	All Brass Polished Cylinder.	All Brass Polished All over.	Height to Center of Cylinder. Inches.	Weight Complete. Lbs.
10	5 to 10	\$300	\$325	\$340	\$380	18	55
14	10	375	400	440	490	27	80
14	20	385	410	450	500	27	80
14	25	395	420	460	510	27	80
18	35	775	810	870	930	30	165
18	45	800	820	880	940	30	165
26	60	1225	1280			{ Low Stand 38	300
						{ Tall " 58	365
26	80	1240	1360			{ Low " 38	300
						{ Tall " 58	365
34	100	1840	1940			58	450



Type "D."

## Pilot House Projector. Type "D."

This apparatus is the same as the Type "A" Projector just described, but mounted in a special U frame, adapting it for use on the roof of the pilot house. A controlling shaft arrangement, as shown, extends below, by means of which the light is readily thrown in any direction by the man at the wheel. With this arrangement it may be controlled with even greater ease than can the deck lights, as the operator is away from the glare of the intense beam, and the light being overhead can be directed with perfect accuracy.

## The Rushmore Projectors and Search-Lights. (Continued.)



Type "D."—Open.

### Pilot House Projector. Type "D."—(Continued.)

Illustration shows the projector with front and back doors opened, and it will be readily seen that anyone can place the carbons in the holders, and should they not be of proper length for focus of the light, the lamp may be instantly shifted to bring it to focus, and thus it is not necessary to have the carbons of an exact length. This will be appreciated by those who have used the old style search lights which it was necessary to take to pieces to replace the carbons and which could never be trimmed in the dark as is often required where the apparatus has been neglected by day.

Other forms of this projector have means of controlling the light when placed away from the pilot house.

Diam- eter. inches.	Amperes.	Plain Iron Japanned.	Plain Iron Polished Brass Cylinder.	All Brass Polished Cylinder.	All Brass Polished All over.	Height to Center of Cylinder. Inches.	Weight Complete. Lbs.
10	5 to 10	\$400	\$425	\$440	\$480	18	65
14	10	475	500	540	590	27	100
14	20	485	510	550	600	27	100
14	25	495	520	560	610	27	100
18	35	875	910	970	1030	33	190
18	45	900	920	980	1040	33	190
26	60	1325	1380			38	325
26	80	1340	1460			38	325
34	100	2040	2140			40	480

### The Lens.

An important feature of the projectors is the new corrective Aplanatic Lens which differs from all other lenses previously used, in that it has a corrective principle which compensates for the area of the carbons. In the common mirror the actual focus is an infinite point, but as the large carbons have a crater of considerable area, such lenses cannot give a perfectly straight beam. By the new design this difficulty is largely overcome. The lenses are of wonderfully strong focus. They are made of a special grade of glass and the latest type machinery is used for their finishing.

### The Concentric Lamp.

The new Concentric Lamp has but a single spool magnet and two gear wheels. It feeds with a power of over thirty pounds at all angles or vertically and its adjustment is permanent and simple.

### Projectors in the Fog.

The light is concentrated to a single narrow beam which causes very little reflection to annoy the pilot, but in real fog a light, no matter how powerful, if thrown horizontally, is worse than useless, as it can penetrate but a short distance, and by its reflection serves only to blind those on watch. It is well known that fog lies close to the water and, to take advantage of this fact, the projectors are constructed to throw a light in a vertical direction when required. In this way the beam easily



## The Rushmore Projectors and Search-Lights. (Continued.)

### Projectors in the Fog.—(Continued.)

penetrates the layer of mist and throws a bright, round spot on the sky which is readily seen by other vessels, and by a suitable switch the light may be flashed to give any signals desired.

### Search Lights for Electric Railways.

As an advertising device there is nothing so successful as the Electric Search Light, particularly where the object is not to attract people merely by curiosity, but for the purpose of viewing the effects at a distance.

Nearly all electric railways have extended their lines to some popular resort, or have established parks of their own. These are usually on high ground, and in such cases one of the most attractive features that could be added is a powerful search light. This apparatus when so ordered, is built to work on the regular power circuits and is not affected by fluctuations in the voltage common at the end of trolley lines. It has been found that where this apparatus has been installed for this purpose it has in a short time more than paid for itself by increased receipts.

### Plain Reflector Lights. Type "B."

Old style common reflector search light. It is radically different from the projectors, as it has a silver-plated sheet copper reflector of the locomotive type. The construction is very simple. The lamp movement is similar to that used in the projectors and has permanent adjustment. It is easily cleaned and supplied with new carbons and is intended for rough service and short range work.

Diameter. inches.	Amperes.	Plain Iron Japanned	Plain Iron Polished Brass Cylinder.	All Brass Polished Cylinder.	All Brass Polished All over.	Height to Center of Cylinder. Inches.	Weight Complete. Lbs.
12	10 to 15	\$230	\$260	\$320	\$370	20	60
18	10 to 20	250	300	360	420	30	150
18	20 to 30	260	315	375	435	30	150
24	30 to 40	368	430			38	250

### Plain Pilot House Reflector Light. Type "C."

This apparatus is the same as Type "B," mounted in a special U frame, adapting it for use on top of pilot house. See description of Type "D."

Diameter. inches.	Amperes.	Plain Iron Japanned.	Plain Iron Polished Brass Cylinder.	All Brass Polished Cylinder.	All Brass Polished All over.	Height to Center of Cylinder. Inches.	Weight Complete. Lbs.
12	10 to 15	\$310	\$340	\$400	\$450	20	70
18	10 to 20	330	380	440	500	33	180
18	20 to 30	340	395	455	515	33	180
24	30 to 40	448	510			38	280

## The Columbian Street Lamp Post.

PATENTED.

For supporting arc lights for street illumination a demand has arisen for a post which, in addition to filling the well-known electrical and mechanical requirements, shall present a symmetrical and pleasing appearance to the eye. A glance at the accompanying illustration will show the success that has attended our efforts in this direction.

The lower part of this post, which is of cast-iron, has a broad circular base, which, when bolted to the sidewalk, gives the post great stability. Above the base the post assumes a hexagonal form and arises in graceful curved faces, paneled and ornamented in a tasteful manner. One of the panels is hinged so that it may be opened to give access to the switch. The wooden portion of the post extends downward through the cast-iron base to the sidewalk, and above the base is provided with neat malleable iron steps, while at its upper extremity is carried a single side-arm lamp support equipped with switchboard and hood. The cover of the hood can be placed at any angle so that the street names will be parallel with the intersecting streets. The height over all is about 21 feet.

There are about 1,500 posts similar to this now in use on the Electric Light plant of the city of Chicago.

We manufacture these posts with ornamental supporting arm for the lamp in place of the ordinary street hood, for boulevards and parks.

In addition to the Columbian Lamp Posts we are prepared to furnish posts of special designs to suit the purchaser. We will submit drawings on application.

Code Word.	List No.	List Price. Each.
<i>Sandalid</i>	21168 Post, complete, without lamp .....	\$110.00
<i>Sandaliform</i>	21169 Extra Switches .....	4.50
<i>Sandalarc</i>	21170 Extra Doors and Locks .....	4.50
<i>Sandalarch</i>	21171 Extra Steps, without ring .....	.40



# MARINE.



No. 8815.

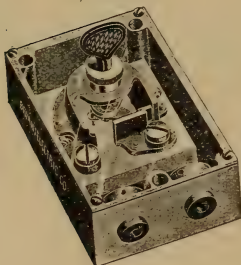


No. 50965.

No. 50966.



No. 50973.



No. 20858.

## Glass Fuses.

Code Word.	List No.	List Price..
<i>Harm</i>	8815 1 Ampere, each.....	<b>\$0.50</b>
<i>Harmed</i>	8816 2 " " .....	.50
<i>Harmful</i>	8817 3 " " .....	.50
<i>Harmfully</i>	8818 5 " " .....	.50
<i>Harming</i>	8819 8 " " .....	.50
<i>Harmless</i>	8820 10 " " .....	.50

## Marine Sockets.

<i>Catholical</i>	50965 Keyless, Edison Base, each.....	60
<i>Catkin</i>	50966 Key, Edison Base, each.....	.75

## Junction Boxes.

<i>Lounger</i>	50972 Search-light Junction Box, each.....	6.00
<i>Lovable</i>	50973 Feeder Junction Box, each.....	6.50
<i>Loreless</i>	50967 Four-way Branch Junction Box, each.....	8.00
<i>Lorelily</i>	63766 Key for Removing Covers of Catalogue Nos. 50972, 50973 and 50967, each.....	1.50

## Bryant Waterproof Marine Switch.

This Switch is designed for marine work or for use in damp places. The wires enter through stuffing boxes having soft rubber packing. They are extensively used on transatlantic steamers.

<i>Saintism</i>	20858 10 Ampere, Single Pole, each .....	<b>\$5.00</b>
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No. 63758.



No. 63764.



No. 50974.



No. 50970.



No. 50971.



No. 64109.



No. 9121.

## Marine Switches.

Code Word.	List No.	List Price
<i>Loveliness</i>	63758	Water-tight Switch and Receptacle, capacity 5 amperes, each. .... \$6.50
<i>Lovelorn</i>	63759	Water-tight Switch Receptacle and Junction Box, each. .... 11.00
<i>Lovely</i>	63756	Single Pole Water-tight Switch, capacity 5 amperes, each. .... 5.25
<i>Lover</i>	63763	Double Pole Water-tight Switch, capacity 10 amperes, each. .... 7.00

<i>Lovesome</i>	63764	Double Pole Water-tight Switch, capacity 40 amperes, each. .... 14.50
<i>Lover</i>	63757	Single Pole, not Water-tight Switch, capacity 10 amperes, each. .... .60

## Deck Tubes.

<i>Lowered</i>	50974	Protective Deck Wire Stuffing Tube, each. .... 8.50
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<i>Lowering</i>	50970	Main Deck Wire Stuffing Tube, each. .... 5.00
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<i>Lowland</i>	50971	Bulkhead Deck Wire Stuffing Tube, each. .... 1.20
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<i>Mildew</i>	64109	Water-tight Receptacle, with Attaching Plug, capacity 5 amperes, each. .... 5.25
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<i>Mileage</i>	64110	Attaching Plug for No. 64109, each. .... 1.75
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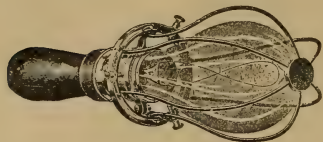
<i>Military</i>	64111	Not Water-tight Receptacle, each. .... .65
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<i>Militia</i>	64112	Attaching Plug for No. 64111, each. .... 1.50
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<i>Milk</i>	64113	Search-light Receptacle, with Plug, each. .... 12.00
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## Portable Lamp Guards.

<i>Lotion</i>	9121	Portable Lamp, each. .... 6.00
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No. 4974.

## Portable Lamp Guards—(Continued).

Code Word.	List No.	List Price.
<i>Lottery</i>	4974 Portable Lamp Guard, safety hand key socket, each.....	\$2.00
<i>Lotus</i>	4975 Portable Lamp Guard, safety hand keyless socket, each.....	1.75



No. 8913.

<i>Loud</i>	8913 Brewer's Portable Lamp Guard, each.....	2.75
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No. 9118.

<i>Miff</i>	9118 Battle Lantern, without Shield, each.....	12.00
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No. 9119.

<i>Miffer</i>	9119 Battle Lantern, with Shield, each.....	12.00
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No. 9123.

# Fixtures.

Code Word.	List No.	List Price.
<i>Might</i>	9123 Half Wire Guard, each.....	\$4.50



No. 9124.

<i>Mighty</i>	9124 Full Wire Guard, each.....	7.00
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No. 9122.

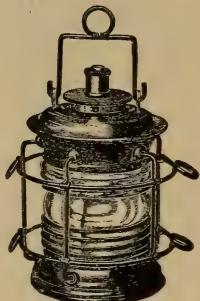
<i>Loudly</i>	9122 Steam-tight Globe, each.....	6 50
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No. 9125.

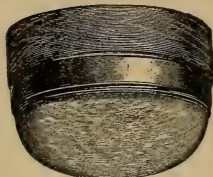
## Fixtures—(Continued).

Code Word.	List No.	List Price.
<i>Loudness</i>	9125	Steam-tight Globe, with Guard, each.....\$7.00



No. 9120.

<i>Lounges</i>	9120	Navy Signal Lantern, each.....15.00
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No. 9140.

<i>Mesh</i>	9140	Ceiling Fixture, each.....8.00
<i>Lactean</i>	8821	Shade, each.....1.00
<i>Lactic</i>	8822	Rubber Gasket, each......50



No. 9141.

<i>Meshed</i>	9141	Ceiling Fixture, each.....11.00
<i>Lactine</i>	8823	Shade, each.....1.00
<i>Lactic</i>	8822	Rubber Gasket, each......50



No. 9126



No. 9136.



No. 9134.



No. 9135.



No. 9137.

Fixtures—(Continued).

Code Word.	List No.	List Price.
<i>Meshing</i>	9126	Portable Guarded Freight or Cargo Lantern, with Guard, each .....\$35.00
<i>Ladder</i>	8824	Portable Guarded Freight or Cargo Lantern, no Guard, each. ....27.50
<i>Merry</i>	9136	Ceiling Fixture, complete, no Lamp, each..... 4.00
<i>Merriness</i>	9134	Ceiling Fixture, complete, no Lamp, each..... 3.50
<i>Migrate</i>	9135	Wall Bracket, each..... 7.50
<i>Migrating</i>	9137	Wall Bracket, each. . . . . 7.50





No. 9138.

## Fixtures—(Continued).

Code Word.	List No.	List Price.
<i>Mild</i>	9138	Wall Bracket, each..... \$10.00



No. 9130.

<i>Migration</i>	9130	Desk Lamp, each..... 12.00
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No. 9129.

<i>Meriting</i>	9129	2 Light Electrolier, with Oil Lamp, each..... 30.00
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No. 9131.

<i>Mermaid</i>	9131	2 Light Electrolier, with Oil Lamp, each..... 32.50
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No. 9128.

## Fixtures—(Continued).

Code Word.	List No.	List Price.
<i>Merrily</i>	9128	6 Light Electrolier, each.....45.00



No. 9127

<i>Merriment</i>	9127	6 Light Electrolier, with Oil Lamp, each.....50.00
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No. 9132.

<i>Milder</i>	9132	3 Light Electrolier, each.....18.00
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No. 9133.

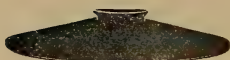
<i>Mildest</i>	9133	2 Light Electrolier, with Oil Lamp, each.....28.00
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# SHADES.

## Porcelain Shades.



No. 2700.



No. 2704.



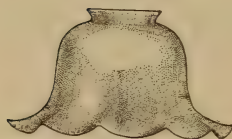
No. 2709.



No. 2714.



No. 2719.



No. 2720.

Code Word.	List No.		List Price. Per doz.
<i>Dealing</i>	2700	5 inch, Fan Shaped, Flat	\$ 2.25
<i>Deanery</i>	2701	6 " " "	2.50
<i>Deborah</i>	2702	7 " " "	2.75
<i>Delia</i>	2703	8 " " "	3.10
<i>Sinony</i>	23104	10 " " "	3.60
<i>Sinoon</i>	23105	12 " " "	7.80

<i>Absalom</i>	2704	5 inch, Plain, Flat	2.00
<i>Abscess</i>	2705	6 " " "	2.00
<i>Abscond</i>	2706	7 " " "	2.25
<i>Absconded</i>	2707	8 " " "	2.50
<i>Absolutely</i>	2708	10 " " "	2.75
<i>Absolution</i>	2725	12 " " "	5.50
<i>Absolve</i>	2726	14 " " "	6.25
<i>Absolter</i>	2727	16 " " "	8.75
<i>Absolting</i>	2728	18 " " "	15.00
<i>Simious</i>	23106	20 " " "	17.00
<i>Simper</i>	23107	22 " " "	26.00
<i>Simprer</i>	23108	24 " " "	32.00

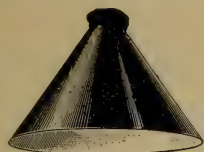
<i>Denis</i>	2709	5 inch, Deep, Fan Shape	2.25
<i>Depress</i>	2710	6 " " "	2.50
<i>Depression</i>	2711	7 " " "	2.75
<i>Deprice</i>	2712	8 " " "	3.00
<i>Depricing</i>	2713	10 " " "	6.00

<i>Deadness</i>	2714	5 inch, Plain, Deep	2.00
<i>Deaf</i>	2715	6 " " "	2.25
<i>Deafen</i>	2716	7 " " "	2.50
<i>Deafness</i>	2717	8 " " "	2.75
<i>Deaf</i>	2718	10 " " "	5.00

From No. 2714 to No. 2718, made in both plain and beaded edge. In ordering state plain or beaded edge as desired.

<i>Lignite</i>	2719	Melon, Opal, for 2 1/2 inch Holder	3.00
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<i>Absoutat</i>	2720	5 inch, Scalloped	2.00
<i>Absorb</i>	2721	6 " " "	2.25
<i>Absorbent</i>	2722	7 " " "	2.50
<i>Absorbing</i>	2723	8 " " "	2.75
<i>Absorption</i>	2724	10 " " "	5.00



No. 2731.

### Porcelain Shades —(Continued).

Code, Word.	List No.	List Price.
<i>Lighter</i>	<b>2729</b> 8 inch, White Porcelain, Deep Cone, per dozen. .	<b>\$3.75</b>
<i>Lighterage</i>	<b>2730</b> 10 " " " " " " " " " " " "	<b>4.00</b>
<i>Lightness</i>	<b>2731</b> 7 " Green " " " " " " " " " "	<b>11.25</b>
<i>Lightly</i>	<b>2732</b> 10 " " " " " " " " " " " "	<b>22.50</b>



No. 8712.

### Etched Electric Globes—Glass.

<i>Livelihood</i>	<b>8712</b> 7½ in. diam., 2½ in. high, 2½ in. holder, per doz...	<b>10.00</b>
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No. 8878.

<i>Litmus</i>	<b>8878</b> 7½ in. diam., 8½ in. high, 2½ in. holder, per doz...	<b>4.00</b>
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No. 8770.

<i>Liturg</i>	<b>8770</b> 5 in. diam., 4 in. high, 2½ in. holder, per dozen...	<b>10.00</b>
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No. 8771.

<i>Litter</i>	<b>8771</b> 5½ in diam . 4 in. high, 2½ in. holder, per dozen .	<b>3.90</b>
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No. 8772.

<i>Littoral</i>	<b>8772</b> Per dozen.....	<b>3.75</b>
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No. 8773.

## Etched Electric Globes—Glass—(Continued).

Code Word.	List No.	List Price
<i>Littleness</i>	8773 Per dozen.....	\$3.75



No. 8825.

<i>Littering</i>	8825 Per Dozen.....	3.75
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No. 8765.

<i>Lusterless</i>	8765 5½ in. diameter, 4 in. high, 2½ in. holder, per doz..	7.50
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No. 8766.

<i>Luster</i>	8766 5 in. diameter, 4 in. high, 2½ in. holder, per doz..	7.50
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No. 8767.

<i>Lustrous</i>	8767 5½ in. diameter, 4 in. high, 2½ in. holder, per doz..	9.00
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No. 8768.

## Etched Electric Globes—Glass—(Continued).

Code Word.	List No.	List Price.
<i>Lusciously</i>	8768	5½ in. diameter, 4 in. high, 2½ in. holder, per doz. \$10.00



No. 8769.

<i>Luscious</i>	8769	5 in. diameter, 4 in. high, 2½ in. holder, per doz. 15.00
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No. 8826.

<i>Coruscate</i>	8826	Per dozen..... 4.13
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No. 8827.

<i>Lurch</i>	8827	5 in. diameter, 3½ in. high, 2½ in. holder, per doz. 15.00
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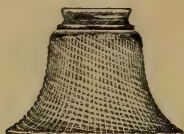
No. 8828.

<i>Lurching</i>	8828	5 in. diameter, 4 in. high, 2½ in. holder, per doz. 15.00
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No. 8829.

<i>Lurid</i>	8829	5½ in. diameter, 4½ in. high, 2½ in. holder, per doz. 5.00
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No. 8876.



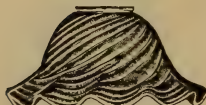
No. 8877



No. 8857.



No. 8862.



No. 8867.



No. 8873.

## Etched Electric Globes—Glass—(Continued).

Code Word.	List No.	List Price.
<i>Lurking</i>	8876	5½ in. diameter, 4 in. high, 2½ in. holder, per doz.. \$3.00

<i>Luring</i>	8877	6 in. diameter, 4 in. high, 2½ in. holder, per doz.. 6.00
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## Colored Electric Globes—Glass.

			Inch Diam.	Inch High.	Inch Holder.	Per Doz.
<i>Liveliness</i>	<b>8857</b>	Pink opalescent,	5½	4½	2½	8.75
<i>Lively</i>	<b>8858</b>	Ruby       “	5½	4½	2½	8.75
<i>Livery</i>	<b>8859</b>	Light blue   “	5½	4½	2½	4.38
<i>Livid</i>	<b>8860</b>	Flint       “	5	4½	2½	4.38
<i>Lividness</i>	<b>8861</b>	Amber       “	5½	4½	2½	4.38

<i>Living</i>	8862	Pink opalescent,	4½	5	2½	7.50
<i>Lizard</i>	8863	Ruby	4½	5	2½	7.50
<i>Loadstone</i>	8864	Flint	4½	5	2½	3.50
<i>Loafer</i>	8865	Light blue "	4½	5	2½	3.50
<i>Loafing</i>	8866	Amber	4½	5	2½	3.50

<i>Loam</i>	8867	Flint opalescent,	5	3½	2½	4.38
<i>Loathful</i>	8868	Ruby	5	3½	2½	8.75
<i>Loathness</i>	8869	Flint	6	3½	2½	4.65
<i>Loathsome</i>	8870	Ruby	6	3½	2½	9.00
<i>Locality</i>	8871	Flint	7	3½	2½	4.90
<i>Locally</i>	8872	Ruby	7	3½	2½	9.25

			Inch Diam.	Inch Long.	Inch Holder 1	
<i>Lovate</i>	8873	Ruby opalescent,	4	6½	3½	12.00
<i>Lovely</i>	8874	Flint       "	4	6½	3½	6.00
<i>Lowness</i>	8875	Crystal     "	4	6½	3½	5.50

# New Patterns in Standard Shades.



No. 23109.



No. 23110.

## W. A. Fluted Etched Shade.

Code Word.	List No.	List Price.
<i>Simple</i>	<b>23109</b>	Shade 4 x 4 in. for 2½ in. holder... <b>\$5.30</b>

## W. A. Electric.

<i>Simpleness</i>	<b>23110</b>	3¼ in. high, 4⅝ in. wide, for 2½ in. holder.....	<b>5.00</b>
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No. 23184.



No. 23111.

## Green Desk Shade.

Green glass outside and opal inside.

<i>Sirlwin</i>	<b>23184</b>	6 in. high, 6½ in. wide, for 3¼ in. shade holder.....	<b>18.00</b>
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## Diamond Etched.

<i>Simpler</i>	<b>23111</b>	4 in. high, 5½ in. wide, for 2½ in. holder.....	<b>9.00</b>
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No. 23112.



No. 23113.

<i>Simpleness</i>	<b>23112</b>	4 in. high, 4½ in. wide, for 2½ in. shade holder.....	<b>9.00</b>
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<i>Simplification</i>	<b>23113</b>	4¼ in. high, 4⅝ in. wide, for 2½ in. shade holder.....	<b>9.00</b>
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No. 23114.



No. 23115.

<i>Simplify</i>	<b>23114</b>	4⅝ in. high, 5 in. wide, for 2½ in. shade holder.....	<b>9.00</b>
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## Rough Etched Maple Leaf.

<i>Simplest</i>	<b>23115</b>	4¾ in. high, 5½ in. wide, for 2½ in. shade holder.....	<b>7.00</b>
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The black background on shades represents clear glass.

## Shades

## Etched Shades.



No. 21729.

Code Word.	List No.	List Price. Per Doz.
<i>Segregate</i>	21729 Etched .....	\$3.00



No. 21730.

<i>Seigneurial</i>	21730 Pearl Etched .....	4.50
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No. 21731.

<i>Seignior</i>	21731 Pearl Etched .....	4.50
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No. 21732.

<i>Seigniory</i>	21732 Pearl Etched, ribbed .....	4.50
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No. 21733.

<i>Seiur</i>	21733 Pearl Etched .....	4.50
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No. 21734.

<i>Seize</i>	21734 Pearl Etched .....	4.50
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# Shades



No. 21735.



No. 21736.



No. 21737.

## Roughed Inside.

Code Word.	List No.		List Price. Per Doz.
<i>Seldom</i>	21735	4½ in. diam. 5½ in. high, crimped top	\$7.50
<i>Select</i>	21736	4½ " 5½ "	7.00
<i>Selectman</i>	21737	3½ " 5½ "	7.50

## Silver Etched.



No. 21739.



No. 21740.



No. 21741.

<i>Self</i>	21738	3½ in. diam. 5½ in. high, scalloped top,	18.00
<i>Selfish</i>	21739	3½ " 5½ " plain top	15.00
<i>Selfsame</i>	21740	4½ " 5½ " scalloped top,	18.00
<i>Selouge</i>	21741	4½ " 5½ " plain top	15.00
<i>Semaphone</i>	21742	3½ " 5½ " twist ruby	9.00
<i>Semblance</i>	21743	3½ " 5½ " twist flint opalescent	6.25



No. 21744.



No. 21745.



No. 21746.

<i>Seminary</i>	21744	5½ in. diam. 4 in. high, etched pan	5.50
<i>Semitic</i>	21745	4½ " 4½ " silver etched, plain top	12.50
<i>Semitone</i>	21746	5½ in. diam. 4 in. high, etched pan	5.50

## Crimped.



No. 21747.



No. 21748.



No. 21749.

<i>Sempstress</i>	21747	5 in. diam. 4½ in. high, etched	7.50
<i>Senate</i>	21748	5½ " 4½ " " "	5.00
<i>Senator</i>	21749	5 " 4½ " roughed inside	7.00



No. 21750.



No. 21751.



No. 21752.

<i>Senatorial</i>	21750	4½ in. diam. 5½ in. high, silver etched scalloped top	12.00
<i>Senile</i>	21751	4½ in. diam. 4 in. high, rich cut	14.00
<i>Senility</i>	21752	4½ " 5½ " silver etched plain top	16.00

## Rich Cut.



No. 21753.



No. 21754.



No. 21755.

<i>Senior</i>	21753	4½ in. diam. 5½ in. high	54.00
<i>Senoirity</i>	21754	4½ " 5½ "	60.00
<i>Sensation</i>	21755	4½ " 5 "	44.00

All Shades on this page for 2½ in. holder.





No. 21756.



No. 21757.

**Silver Etched, Scalloped Top.**

Code Word.	List No.	List Price. Per Doz.
<i>Sense</i>	21756 5 in. diam., 3½ in. high.....	\$17.00

**Silver Etched and Cut, Beveled Top.**

<i>Sensibility</i>	21757 5½ in. diam., 4 in. high .....	20.00
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No. 21758.



No. 21759.

**Silver Etched, Plain Top.**

<i>Sensible</i>	21758 4½ in. diam., 4½ in. high.....	17.00
<i>Sensitice</i>	21759 5 " 4½ " .....	15.00



No. 21760.



No. 21761.

**Silver Etched and Rich Cut, Scalloped Top.**

<i>Sensorial</i>	21760 5½ in. diam. 4 in. high.....	24.00
<i>Sensorium</i>	21761 5½ " 4 " .....	24.00



No. 21762.

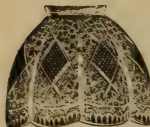


No. 21763.

**Cut and Etched.**

<i>Sensory</i>	21762 Scalloped Top, 6 in. diam. 4 in. high...	24.00
<i>Sentence</i>	21763 " 5½ " 3½ " .....	14.50
<i>Sententious</i>	21764 Plain Top, 5½ " 3½ " .....	12.50

No. 21764 is the same in finish as No. 21763.



No. 21765.



No. 21766.

**Cut and Etched.**

<i>Sentient</i>	21765 Melon Beaded Top, 5 in. diam. 4 in. high,	32.00
<i>Sentiment</i>	21766 Corrugated, Scalloped Top, 5 in. diam., 3½ in. high.....	32.00



No. 21767.



No. 21768.

**Rich Cut, Scalloped Top.**

<i>Sentimental</i>	21767 5 in. diam., 4½ in. high.....	75.00
<i>Sentinel</i>	21768 4½ " 4½ " .....	30.00



No. 21769.



No. 21770.

**Rich Cut, Scalloped Top.**

Code Word.	List No.	List Price.
<i>Sentry</i>	21769	4 in. diam., 5 in. high, per doz..... \$75.00
<i>Separable</i>	21770	Melon, 5 in. diam., 5 in. high, per doz... 28.00

**Rich Cut, Scalloped Top.**

<i>Separatist</i>	21771	4½ in. diam., 4 in. high, per doz..... 56.00
<i>Septuagint</i>	21772	4½ " " 4½ " " " 48.00



No. 21771.



No. 21772.

**Rich Cut and Etched Ball.**

<i>Septennial</i>	21773	6-inch, 3¼ inch holder, each ..... 6.25
<i>Sepulcher</i>	21774	7-inch, 3¼ " " " ..... 7.50
<i>Sepulchral</i>	21775	8-inch, 3¼ " " " ..... 8.50
<i>Sepulture</i>	21776	10-inch, 3¼ " " " ..... 13.00
<i>Sequences</i>	21777	12-inch, 3¼ " " " ..... 20.00



No. 21773.



No. 21778.

**Rich Cut Bulb.**

<i>Sequel</i>	21778	5½ in. diam., 5½ in. length, 3¼ in. holder, per doz..... 120.00
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No. 21779.



No. 21780.

**Rich Cut Bulbs**

<i>Sequence</i>	21779	4 in. diam., 5½ in. length, 3¼ in. holder, per doz..... 87.50
<i>Sequester</i>	21780	4 in. diam., 5½ in. length, 3¼ in. holder, per doz..... 70.00



No. 21781.



No. 21782.

**Rich Cut.**

<i>Sequestrate</i>	21781	Bulb, 4 in. diam., 5½ in. length, 3¼ in. holder, per doz..... 56.00
<i>Sequestration</i>	21782	Stalactite, 4 in. diam., 5½ in. length, 3¼ in. holder, per doz..... 60.00



No. 21819.



No. 21821.



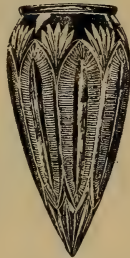
No. 21822.



No. 21824.



No. 21825.



No. 21826.



No. 21827.



No. 21828.

## Shades

### Twist Stalactites.

Code Word.	List No.	Price List. Per doz
<i>Secerity</i>	21819	Flint Opalescent, 7 in. diam., 9 in. length, 5 in. holder. . . . . \$13.50
<i>Seer</i>	21820	Crystal, 7 in. diam., 9 in. length, 5 in. holder. . . . . 12.00

### Plain Stalactite, Roughed Inside.

<i>Seetle</i>	21821	7 in. diam., 10 in. length, 4 in. holder, 24.00
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### Rich Cut Bulb.

<i>Scrlon</i>	21822	Large, 4½ in. diam., 6 in. length, 3½ in. holder. . . . . 60.00
<i>Shabby</i>	21823	Small, 4 in. diam., 5½ in. length, 3½ in. holder. . . . . 55.00
<i>Shackle</i>	21824	4 in. diam., 5½ in. length, 3½ in. holder, 60.00

### Rich Cut Stalactite.

<i>Shadow</i>	21825	4 in. diam., 8 in. length, 3½ in. holder, 85.00
<i>Shoft</i>	21826	4 " " 8 " 3½ " 114.00

### Rich Cut Stalactite.

<i>Shog</i>	21827	Silver Etched, 4½ in. diam., 8½ in. length, 3½ in. holder. . . . . 24.00
<i>Shoggy</i>	21828	4½ in. diam., 8½ in. length, 3½ in. holder, 100.00

## Shades—



No. 21783.



No. 21784.



No. 21785.



No. 21786.



No. 21787.



No. 21788.



No. 21789.



No. 21793



No. 21795.



No. 21796

## Etched.

Code Word.	List No.		List Price. Per doz.
<i>Seraph</i>	21783	Rich cut, $4\frac{1}{2}$ in. diam., $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder.....	\$30.00
<i>Seraglio</i>	21784	Stalactite, $4\frac{1}{2}$ in. diam., $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder.....	9.00

## Etched Stalactite.

<i>Seraphic</i>	21785	Rich cut, 5 in. diam., $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder.....	32.00
<i>Seraphim</i>	21786	Melon, 5 in. diam. $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder,.....	10.90

## Etched Stalactite.

<i>Serapis</i>	21787	Melon, 5 in. diam., $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder,.....	12.00
<i>Serenade</i>	21788	Rich cut, $4\frac{1}{2}$ in. diam., $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder.....	27.00

## Twist Melon Bulb.

<i>Serene</i>	21789	Flint Opalescent, $5\frac{1}{2}$ in. diam., $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder.....	8.00
<i>Serenity</i>	21790	Crystal, $5\frac{1}{2}$ in. diam., $6\frac{1}{2}$ in. long, $3\frac{1}{4}$ in. holder,.....	7.50

## Twist Bulb.

<i>Serf</i>	21792	Ruby, $5\frac{1}{2}$ in. diam. $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder,.....	13.00
<i>Sergeant</i>	21793	Flint Opalescent, $5\frac{1}{2}$ in. diam., $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder.....	6.50
<i>Serial</i>	21794	Crystal, $5\frac{1}{2}$ in. diam., $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder.....	6.50

## Rich Cut.

<i>Serious</i>	21795	Bulb, 5 in. diam., $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder,.....	22.00
<i>Serjeant</i>	21796	Stalactite, $4\frac{1}{2}$ in. diam., $6\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder.....	32.00





No. 21797.



No. 21798.

Code Word.	List No.	Price List.
<i>Sermon</i>	21797	4 in. diam. 8 in. length, $3\frac{1}{4}$ in. holder, per doz. .... \$26.00
<i>Serons</i>	21798	with dish, 4 in. diam. 8 in. length, $3\frac{1}{4}$ in. holder, per doz. .... 180.00
<i>Serpentine</i>	21799	without dish, 4 in. diam. 8 in. length, $3\frac{1}{4}$ in. holder, per doz. .... 90.00



No. 21800.



No. 21801.

Code Word.	List No.	Price List.
<i>Serrate</i>	21800	4 $\frac{1}{2}$ in. diam. 8 $\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder, per doz. .... 80.00
<i>Serum</i>	21801	4 $\frac{1}{2}$ in. diam. 8 $\frac{1}{2}$ in. length, $3\frac{1}{4}$ in. holder, per doz. .... 90.00



No. 21802.

Code Word.	List No.	Price List.
<i>Servant</i>	21802	6-inch, per doz. .... 26.00
<i>Serve</i>	21803	7-inch, " .... 32.00
<i>Service</i>	21804	8-inch, " .... 38.00
<i>Servile</i>	21805	10-inch, " .... 54.00
<i>Servitor</i>	21806	12-inch, " .... 84.00
<i>Servitude</i>	21807	14-inch, " .... 120.00
<i>Session</i>	21808	16-inch, " .... 175.00



No. 21809.

Code Word.	List No.	Price List.
<i>Sesspool</i>	21809	6-inch, each. .... 5.50
<i>Setaceous</i>	21810	7-inch, " .... 7.50
<i>Sete</i>	21811	8-inch, " .... 10.00
<i>Settee</i>	21812	10-inch, " .... 16.00
<i>Setor</i>	21813	12-inch, " .... 22.00

Code Word.	List No.	Price List.
<i>Settler</i>	21814	6-inch, each. .... 2.50
<i>Sever</i>	21815	7-inch, " .... 3.00
<i>Severat</i>	21816	8-inch, " .... 3.75
<i>Severally</i>	21817	10-inch, " .... 6.00
<i>Severe</i>	21818	12-inch, " .... 9.00





No. 21829.

## Silver Etched Bowl.

Code Word.	List No.	List Price.
<i>Shah</i>	21829 12½-inch, each	\$11.00
<i>Shake</i>	21830 14-inch, "	15.00
<i>Shule</i>	21831 15-inch, "	17.50
<i>Shallop</i>	21832 16-inch, "	27.50
<i>Shallow</i>	21833 18-inch, "	42.00



No. 21834.

## Rich Cut Bowl, "Jewel."

<i>Shum</i>	21834 10-inch, each	27.50
<i>Shumble</i>	21835 12½-inch, "	45.00
<i>Shume</i>	21836 14-inch, "	60.00
<i>Shummy</i>	21837 16-inch, "	90.00

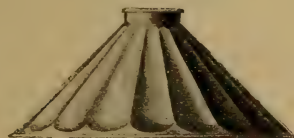
## Aluminum Lined Reflectors.

These Reflectors are made of tin, japanned a dark green on the outside, and lined with a sheet of polished aluminum. The tin forms a strong, stiff support for the thin aluminum, the two being wired or seamed together at the top and bottom edges.

The aluminum is very highly polished, and being almost chemically pure, it will not tarnish by exposure to the atmosphere and moisture. It therefore forms an ideally perfect reflecting surface of the highest efficiency and durability.

The Reflectors are fluted by an improved method, the curvature of the flutings in each style being carefully calculated so as to produce a uniform intensity of light over the area to be lighted, without wasting any portion of it by double reflection, or by throwing it where it will be of no use.

These Reflectors are unbreakable, and they are much lighter in weight than glass.



PAT. APPLIED FOR.

No. 23079.



PAT. APPLIED FOR.

No. 23081.

<i>Silet</i>	23079	No. 101	10-inch, to fit 24 holder, each	.90
<i>Siletu</i>	23080	No. 102	12-inch, " 24 " "	1.15
<i>Sileauite</i>	23081	No. 201	10-inch, " 24 " "	.80
<i>Sileute</i>	23082	No. 202	12-inch, " 24 " "	.95
<i>Sileer</i>	23083	No. 203	14-inch, " 24 " "	1.15

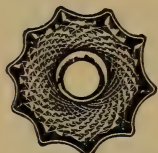


No. 21838.

**"X Ray" Silvered Glass Reflectors.**

Aluminum Finish on Backs.

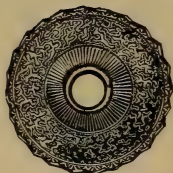
Code Word.	List No.	List Price. Per Doz.
<i>Shampoo</i>	21838 5½ in. diam. 2 in. deep.....	\$10.00



No. 21839.



<i>Shank</i>	21839 6½ in. diam. 2½ in. deep .....	10.00
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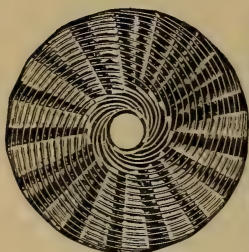


No. 21840.



<i>Shant</i>	21840 7 in. diam. 1½ in. deep .....	11.25
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Adapted for ceiling and wall lighting.

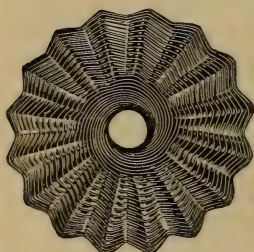


No. 21841.

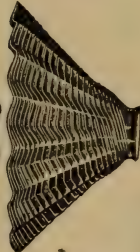


<i>Shatter</i>	21841 8 in. diam.....	13.35
<i>Shave</i>	23842 10 in. diam.....	17.50

<i>Shaver</i>	21843 6 in. diam. 3½ in. deep .....	10.00
<i>Shawl</i>	21844 7 " 4 " .....	11.25
<i>Sheaf</i>	21845 8 " 5 " .....	13.25
<i>Shear</i>	21846 10 " 5½ " .....	17.50



No. 21843.

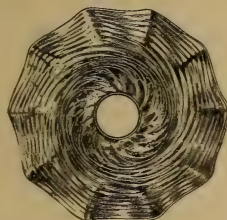
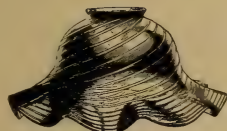
**Flat Reflectors.**

With Twist or Straight Ribs.

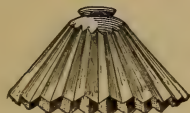
<i>Shears</i>	21847 10 in. diam. 2½ in. holder .....	13.75
<i>Sheath</i>	21848 12 " 2½ " .....	16.25
<i>Sheath</i>	21849 14 " 2½ " .....	20.00
<i>Shekinah</i>	21850 16 " 3½ " .....	27.50
<i>Sheen</i>	21851 18 " 3½ " .....	35.00



No. 2355.



No. 2363.



No. 2366.

## Silvered Glass Reflectors.

## Flat Spiral Corrugated.

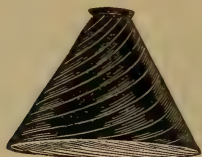
Code Word.	List No.		List Price.
<i>Logical</i>	2355	8 inch diameter, $2\frac{1}{4}$ inch holder, per dozen	\$8.00
<i>Logically</i>	2356	10 " " " $2\frac{1}{4}$ " " "	9.00
<i>Logician</i>	2357	12 " " " $2\frac{1}{4}$ " " "	13.75
<i>Logwood</i>	2358	14 " " " $2\frac{1}{4}$ " " "	17.50
<i>Loir</i>	2359	16 " " " $2\frac{1}{4}$ " " "	20.00
<i>Loiter</i>	2360	18 " " " $2\frac{1}{4}$ " " "	26.25
<i>Loneliness</i>	2361	20 " " " $2\frac{1}{4}$ " " "	37.50
<i>Lonely</i>	2362	22 " " " $2\frac{1}{4}$ " " "	45.00

## Scalloped Silvered Shade.

<i>Lonesome</i>	2363	7 inch diameter, $2\frac{1}{4}$ inch holder, per dozen	9.00
<i>Looming</i>	2364	8 " " " $2\frac{1}{4}$ " " "	10.00
<i>Loom</i>	2365	10 " " " $2\frac{1}{4}$ " " "	12.00

## Radial Fluted.

<i>Loose</i>	2366	7 inch diameter, $2\frac{1}{4}$ inch holder, per dozen	9.00
<i>Loosely</i>	2367	8 " " " $2\frac{1}{4}$ " " "	10.00
<i>Loosen</i>	2368	10 " " " $2\frac{1}{4}$ " " "	12.00



No. 2369.

## Silvered Glass Reflectors—(Continued).

## Deep Spiral Corrugated.

Code Word.	List No.	List Price.
<i>Looseness</i>	2369	7 inch diameter, 2½ inch holder, per dozen .... \$8.00
<i>Loosening</i>	2370	10 " " 2½ " " " .....12.00



No. 2733.

## McCreary Standard Reflector Shade.

<i>Lintel</i>	2733	7 inch Shade ; size of opening at top, 2½ inches requires a 3½ inch holder ; will take a 16, 20 or 24 candle-power lamp, per dozen ..... 18.00
<i>Lioness</i>	2734	8 inch shade ; size of opening at top, 2½ inches ; requires a 3½ inch holder ; will take a 16, 20 or 24 candle-power lamp, per dozen ..... 21.00
<i>Lionize</i>	2735	9 inch Shade ; size of opening at top, 3½ inches ; requires a 4 inch holder ; will take a 32 candle-power lamp, per dozen ..... 33.00
<i>Liquidate</i>	2736	12 inch Shade ; size of opening at top, 3½ inches ; requires a 4 inch holder ; will take a 50 candle-power lamp, per dozen ..... 51.00

In ordering, state kind of lamp to be used and candle-power.

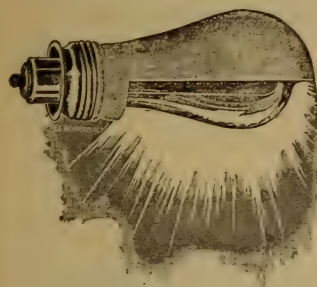


No. 3997.

<i>Liquidated</i>	2779	Shade Holder for Standard Shade, Edison Socket, per dozen ..... 2.50
<i>Liquidating</i>	2779B	Shade Holder for Standard Shade, Westinghouse Socket, per dozen ..... 3.00
<i>Liquor</i>	2780	Mica Dust Protector for 7 and 8 inch Standard Shades, per dozen ..... .75
<i>Liabon</i>	2781	Mica Dust Protector for 9 and 12 inch Standard Shades, per dozen ..... 1.50
<i>Lightening</i>	3997	Opaque Green, with Ground Glass Bottom, 3½x8 inches, per dozen ..... 21.00



# McCreary Half Reflector Shade.



No. 2737.

Code Word.  
*Lingo*  
*Lingual*  
*Linguist*  
*Liniment*

List No.		List Price.
2737	Opal, per dozen.....	\$7.50
2738	Silvered ".....	9.00
2739	Colored ".....	8.00
2740	Aluminum ".....	10.50

Including Metal Tops.

## For 32 Candle-Power Lamps.

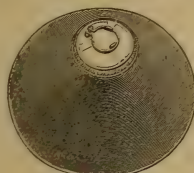
<i>Linking</i>	2741	Opal, per dozen.....	8.50
<i>Linnet</i>	2742	Silvered ".....	10.50
<i>Linseed</i>	2778	Colored ".....	9.00

Including Metal Tops.

# "Cartwright" Paper Waterproof Lamp Shade.

## For Any Socket.

These are made with the white and green surface, and can be washed in either cold or lukewarm water without destroying the texture of the fibre, the fibre being thoroughly impregnated with a waterproof material. Any dust or fly specks that can be removed from any surface can be removed from this Lamp Shade without injury to the surface or fibre of same.



No. 2777.

<i>Lingering</i>	2777	"Cartwright" Paper Shades, per dozen.....	4.80
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## Utility Shades.

### Made of Celluloid or Cardboard.



No. 8731.

<i>Hostiness</i>	8731	10 inch, Cardboard, per dozen.....	2.00
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<i>Hasty</i>	8732	8 inch, Cardboard, per dozen.....	1.80
<i>Hatching</i>	8733	8 " Celluloid, single sheet, polished one side, per dozen.....	5.00

<i>Hatchway</i>	8734	8 inch, Celluloid, single sheet, polished two sides, per dozen.....	5.50
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<i>Hateful</i>	8735	8 inch, Celluloid, opaque, white lined, per dozen.....	8.40
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<i>Hatefully</i>	8736	8 inch, Celluloid, transparent, white lined, per dozen.....	9.00
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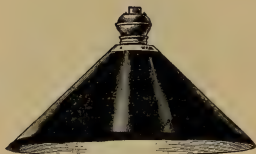


No. 8732.





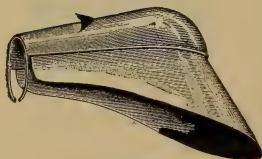
No. 8737.



No. 8747.



No. 2798.



No. 2792.



No. 2793.

## Utility Shades—(Continued).

Code Word.	List No.	List Price.
<i>Hatefulness</i>	<b>8737</b> 10 inch, Cardboard, per dozen .....	\$2.00
<i>Hatred</i>	<b>8738</b> 10 " Celluloid, single sheet, polished one side, per dozen .....	5.50
<i>Hated</i>	<b>8739</b> 10 inch, Celluloid, single sheet, polished two sides, per dozen .....	6.00
<i>Hatlock</i>	<b>8740</b> 10 inch, Celluloid, opaque, white lined, per dozen .....	9.60
<i>Haughtiness</i>	<b>8741</b> 10 inch, Celluloid, transparent, white lined, per dozen .....	10.00
<i>Haughty</i>	<b>8747</b> 12 inch, Cardboard, per dozen .....	3.50
<i>Haunt</i>	<b>8748</b> 12 " Celluloid, opaque, white lined, per dozen .....	15.00

Prices include Shade Holder.

## Miscellaneous Metal Shades.

## Bowling Alley Shade.

This Shade is suspended from a fixed point by the incandescent conducting cord, as shown in the cut. The cord, after leaving the socket, passes around the edge and through a metal slide which travels from center of Shade to the upper edge on the wire strip. By moving this slide either to the right or left the position of the Shade is regulated.

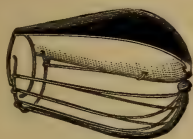
<i>Lignitic</i>	<b>2798</b> Japanned Green, each .....	1.25
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## Billiard Shades.

<i>Likeliness</i>	<b>2792</b> Extra Deep, each .....	.80
<i>Likeness</i>	<b>2797</b> " with Combination Holder (see No. 2743), each .....	1.00

## Metal Half Shades.

<i>Likening</i>	<b>2793</b> Japanned Green Outside, White Enamel Inside, each .....	.40
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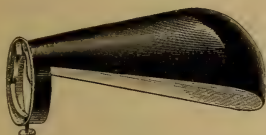


No. 2794.

### Miscellaneous Metal Shades—(Continued).

#### Metal Half Shades—With Wire Guard.

Code Word.	List No.	List Price.
<i>Likewise</i>	<b>2794</b>	Japanned Green Outside, each.....\$0.60



No. 2800.

#### Metal Half Shade—With Combination Holder.

<i>Liking</i>	<b>2800</b>	Japanned Green, per dozen.....	<b>6.50</b>
<i>Lilac</i>	<b>2801</b>	“ “ with Wire Guard, per dozen...	<b>7.75</b>

See cut of Shade No. 2743, which shows manner in which it is used.

Only one set-screw used. Saves time in adjusting socket.

### Metal Shades and Reflectors.

#### “Marten” Combination Shade and Holder.

(Patented.)



No. 2743.

<i>Abyss</i>	<b>2743</b>	6 inch, Flat, Green and White Enamel, per doz.	<b>2.75</b>
<i>Accede</i>	<b>2744</b>	7 “ “ “ “ “ “ “	<b>2.75</b>
<i>Acceded</i>	<b>2745</b>	8 “ “ “ “ “ “ “	<b>2.75</b>
<i>Criminal</i>	<b>2746</b>	10 “ “ “ “ “ “ “	<b>3.25</b>
<i>Criminate</i>	<b>2747</b>	12 “ “ “ “ “ “ “	<b>4.30</b>
<i>Criminating</i>	<b>2748</b>	14 “ “ “ “ “ “ “	<b>4.85</b>
<i>Cuthbert</i>	<b>2749</b>	16 “ “ “ “ “ “ “	<b>6.20</b>
<i>Cynthia</i>	<b>2750</b>	18 “ “ “ “ “ “ “	<b>7.25</b>
<i>Acceding</i>	<b>2751</b>	8 in., Half Deep, Green and White Enamel, per doz.	<b>2.75</b>
<i>Accelerate</i>	<b>2752</b>	10 “ “ “ “ “ “ “	<b>3.25</b>
<i>Accession</i>	<b>2753</b>	12 “ “ “ “ “ “ “	<b>4.30</b>
<i>Cricketer</i>	<b>2754</b>	14 “ “ “ “ “ “ “	<b>4.85</b>
<i>Crier</i>	<b>2755</b>	16 “ “ “ “ “ “ “	<b>6.20</b>
<i>Crime</i>	<b>2756</b>	18 “ “ “ “ “ “ “	<b>7.25</b>
<i>Accidental</i>	<b>2757</b>	8 in., Full Cone, Green and White Enamel, per doz.	<b>4.30</b>
<i>Acclaim</i>	<b>2758</b>	10 “ “ “ “ “ “ “	<b>4.85</b>
<i>Acclamation</i>	<b>2759</b>	12 “ “ “ “ “ “ “	<b>5.65</b>

Only one set-screw used instead of (4) four, as in ordinary Holders heretofore sold.

## Metal Shades and Reflectors—(Continued).



No. 2760.

## Flat Tin Shades.

Code Word.	List No.	List Price.
<i>Abstain</i>	2760 6 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	\$1.75
<i>Absterge</i>	2761 7 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	1.75
<i>Abstract</i>	2762 8 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	1.75
<i>Absurd</i>	2763 10 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	2.25
<i>Absurdity</i>	2764 12 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	3.00
<i>Harmlessly</i>	2765 14 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	3.75
<i>Harmlessness</i>	2766 16 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	5.00
<i>Harmonic</i>	2767 18 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	6.00

Fitted for  $2\frac{1}{2}$  inch and  $3\frac{1}{2}$  inch Holders, and Edison Holder. Other sizes to order.

Any of the above Shades fitted with  $\frac{1}{8}$  x  $\frac{1}{8}$  inch pipe connections for bracket work at 10 cents each, net, extra.

## Half Deep Tin Shades.

SIMILAR TO No. 2760, BUT A LITTLE DEEPER.



No. 2769.

<i>Absurdly</i>	2768 8 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	1.75
<i>Abundance</i>	2769 10 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	2.25
<i>Abusing</i>	2770 12 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	3.00
<i>Abusive</i>	2771 14 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	3.75
<i>Castellated</i>	2772 16 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	5.00
<i>Castle</i>	2773 18 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	6.00

Fitted for  $2\frac{1}{2}$  inch and  $3\frac{1}{2}$  inch Holders, and Edison Holder. Other sizes to order.

We can also furnish any of the above Japanned White Enamel both sides.

## Cone Tin Shades.

<i>Abut</i>	2774 8 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	2.25
<i>Abutment</i>	2775 10 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	3.00
<i>Abutting</i>	2776 12 inch, Japanned Green Outside, Enameled White Inside, per dozen.....	4.00

Fitted for  $2\frac{1}{2}$  inch and  $3\frac{1}{2}$  inch Holders. Other sizes to order.



No. 2774.



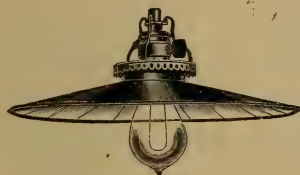
No. 21862.

**Silver-Plated Mirror Reflectors.****Deep Cone.**

To concentrate a powerful light on a small space.

Lined with silver-plated mirror-plate glass. Increases the light from twelve to fifteen times. Most valuable in show windows and over machines, work benches, type cases, etc., etc.

Code Word.	List No.	Price List Each.
<i>Sherbet</i>	21862 No. 121 7-inch, to fit $\frac{3}{4}$ holder	\$ 1.00
<i>Sheriff</i>	21863 No. 122 10-inch, " " "	1.05
<i>Sherry</i>	21864 No. 123 12-inch, " " "	1.25



No. 21865.

**Flat Cone.**

For use where it is desired to spread the light. Its silver-plated mirror-plate lining makes it most effective and pleasing, and always as good as new.

<i>Shew</i>	21865 No. 131 10-inch, to fit $\frac{3}{4}$ holder	.90
<i>Shewn</i>	21866 No. 132 12-inch, " " "	1.00
<i>Shibboleth</i>	21867 No. 133 14 inch, " " "	1.25
<i>Shield</i>	21868 No. 134 16-inch, " " "	1.65
<i>Shiftless</i>	21869 No. 135 18-inch, " " "	2.10



No. 21870.

**Convex.**

Reflecting slightly below the horizontal in all directions.

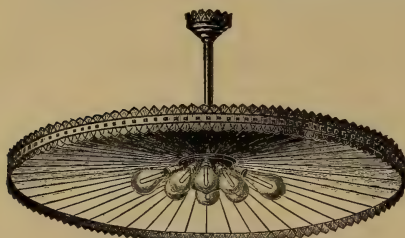
Used in stores, etc., for general illumination.

<i>Shilling</i>	21870 No. 141 10-inch, to fit $\frac{3}{4}$ holder	.90
<i>Shilby</i>	21871 No. 142 12-inch, " " "	1.00
<i>Shilly</i>	21872 No. 143 14-inch, " " "	1.25
<i>Shimmer</i>	21873 No. 144 16 inch, " " "	1.65
<i>Shin</i>	21874 No. 145 18-inch, " " "	2.10

**For Incandescent Clusters.****Style No. 158.**

No. 21875.

<i>Shingle</i>	21875 No. 151 20-in. Reflector only, fits $\frac{3}{4}$ iron pipe	3.00
<i>Shinney</i>	21876 No. 152 24-in. Reflector only, fits $\frac{3}{4}$ iron pipe	4.50
<i>Shinto</i>	21877 No. 153 30-in. Reflector only, fits $\frac{3}{4}$ iron pipe	7.00
<i>Shire</i>	21878 No. 154 35-in. Reflector only, fits $\frac{3}{4}$ iron pipe	10.00
<i>Shirk</i>	21879 No. 155 20-in. complete, 3 lights, wired	6.00
<i>Shirred</i>	21880 No. 156 24-in. " 4 " "	7.75
<i>Shirting</i>	21881 No. 157 30-in. " 6 " "	10.75
<i>Shive</i>	21882 No. 158 35-in. " 8 " "	14.00



No. 21883.

## Silver-Plated Mirror Reflectors.

For Incandescent Cluster.

Style No. 168.



No. 21891.

Code Word.	List No.		List Price Each.
<i>Shiver</i>	21883	No. 161 20-in. reflector only (fits $\frac{3}{4}$ iron pipe).	\$5.75
<i>Shoal</i>	21884	No. 162 24-in. " " " $\frac{1}{2}$ " ..	7.50
<i>Shoar</i>	21885	No. 163 30-in. " " " $\frac{1}{2}$ " ..	10.50
<i>Shoat</i>	21886	No. 164 35-in. " " " $\frac{1}{2}$ " ..	14.00
<i>Shock</i>	21887	No. 165 20-in. complete, 3 light wired .....	8.75
<i>Shoddy</i>	21888	No. 166 24-in. " 4 " " .....	10.75
<i>Shone</i>	21889	No. 167 30-in. " 6 " " .....	14.25
<i>Shook</i>	21890	No. 168 35-in. " 8 " " .....	18.00

Green Outside. Glossy Enamel White Inside.

Shoot	21891	No. 319 7-in. diam., height $6\frac{1}{2}$ ins., per doz ...	Per doz. 4.00
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No. 21892.

## Foot Light Reflector.

Green Outside. Bright Tin Inside.

<i>Shore</i>	21892	For $2\frac{1}{4}$ inch holder, per doz.....	6.00
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No. 21893.

## Pulpit Hood.

Bronze outside. White Enamel Inside.

<i>Shote</i>	21893	For $2\frac{1}{4}$ inch holder, per doz.....	3.00
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No. 21894.

## Billiard Reflector.

Green outside. White Enamel inside.

<i>Shout</i>	21894	For $2\frac{1}{4}$ inch holder, per doz.....	9.00
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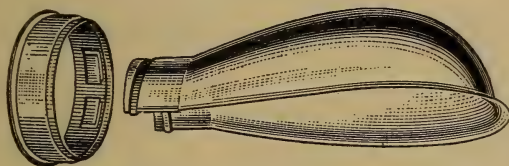


No. 21852.

### The Crescent Shade.

This Shade has been designed to meet all the requirements of the users of Tin Shades. It is made of heavy tin, and the corrugation and shape are so arranged as to give the greatest reflecting power.

Code Word.	List No.	List Price. Per Doz.
<i>Sheep</i>	<b>21852</b>	Enameled White inside, Green outside... <b>\$2.00</b>
<i>Sheepish</i>	<b>21853</b>	Bright Tin inside. Imitation Brass " ... <b>1.50</b>



No. 21854.

### Aluminum Half-Shape Shade.

The shape of this half shade is such as to reflect the greatest possible light. The new patented holder also shown on the above cut, in which only one set screw is used, can be furnished when desired.

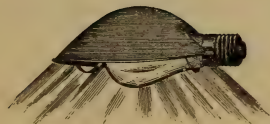
We have a new process of treating aluminum which gives it a silver finish, making it very much more beautiful in effect and softening the reflector. This new treatment of aluminum in electric shade, to the best of our knowledge and belief, has been discovered by us, and from all that we can learn, has never been used heretofore on any electrical shades.

The shades can be furnished green outside, polished inside or polished both sides, or with the new process of treating aluminum, called silvreen finish.



No. 21857.

<i>Sheer</i>	<b>21854</b>	Complete with Collar, Green outside, polished inside .....	<b>9.00</b>
<i>Sheet</i>	<b>21855</b>	Complete with Collar, polished both sides, .....	<b>11.00</b>
<i>Sheik</i>	<b>21856</b>	Complete with Collar, Silver finish.....	<b>11.00</b>
<i>Shekel</i>	<b>21857</b>	Patent Shade Holder, with collar for Shade .....	<b>1.20</b>



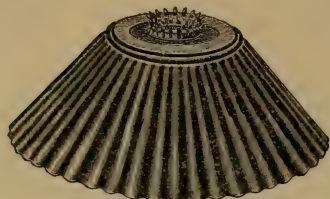
No. 21858

### Parabolic Reflector.

#### Aluminum.

Green outside, polished inside. Fits lamp without shade holder.

<i>Shelter</i>	<b>21858</b>	For 16 c. p. lamp.....	<b>7.50</b>
<i>Shelce</i>	<b>21859</b>	For 32 c. p. lamp.....	<b>11.50</b>



Deep Cone Form.  
No. 21860.

*Sheol*

## Cutter Combination Shades.

### Deep Cone Form.

Save the cost of a shadeholder. Grip the socket squarely and firmly. Throw the light where it is wanted. 25,000 now in use.

Green on top, white or bright inside.

Fit the standard socket shells.

For use in offices, factories and shops.

21860 Per doz..... \$3.00



No. 21861.

*Shepherd*

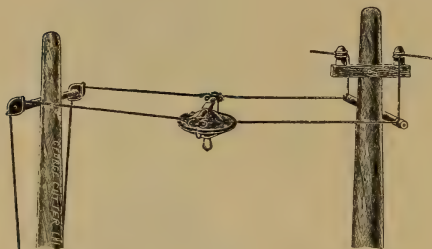
### Flat Form.

Has an improved clamp which grips any beaded socket, so that no shadeholder is required. Is quickly put on or taken off, and has no fingers to bend out of shape or break off.

Always hangs level and firm, and is the most durable reflector made for halls, shops or stores.

Green on top, bright tin or white enameled inside.

21861 Per doz..... 1.80

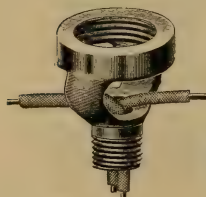


No. 23075.

## Cutter "Always Level" Suspension Streethood.

It is the only suspension streethood that will stay level in windy weather. The two wires leading to the hood make up one side of the suspension, while cords passing over covered pulleys form the other side so that the hood is supported from four points.

Both the wires and the cords are insulated from the cross arm by means of the special spreader tips. The pulleys are mounted on a wrought iron bracket, while a wrought iron brace arm is used at the other pole. These parts are assembled before shipment so that they can be quickly screwed in place. Then an adjusting clamp is placed near the end of each cord so that these cords can be independently drawn up taut and then locked together.



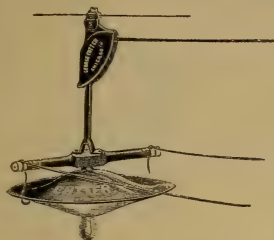
Streethood Nozzle.



"Always Level" Spreader Tip.

*Silt*

23075 Complete with multiple socket.. 3.00

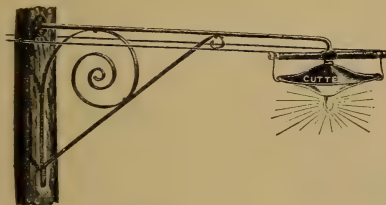


Nos. 20773 and 20773.

### Cutter Petite Pulley and Hood.

Is a smaller form of the lamp supporting pulley, adapted for use with streethoods. This style of suspension is still a favorite with many stations, and the cross arm for this purpose has a special knob bolted securely to it.

Code Word.	List No	List Price. Each.
<i>Sadiron</i>	20772 Hood with cross arm, socket and pulley.....	\$1.75
<i>Sadly</i>	20773 Petite Pulley .....	.50

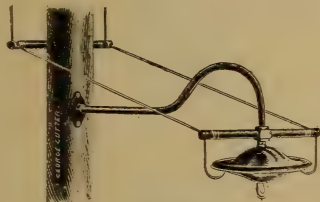


No. 20774.

### Cutter Boulevard Streethood.

Is an ornamental form designed for use on fine residence streets. The cut shows this as made with a five-foot bracket arm; other lengths and special designs will be furnished on short notice.

<i>Sadlux</i>	20774 Complete with socket .....	3.00
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No. 20775.

### Cutter Standard Streethood.

Is the outcome of an eight years' experience in designing and building incandescent street fixtures. The hood proper is seamless and bell-shaped for neatness and strength. The reflector has a white enamel paint baked on it so as to resist the weather, and is so curved as to scatter the light evenly over a wide area. The receptacle socket furnished with the hood for use on multiple circuits can be more quickly wired than any other socket.

The iron supporting bracket or "gooseneck" is extra heavy, and fits a special pole-plate which is bolted to the pole



No. 20775.  
Hood Opened.

*Sadr*

20775	Complete with brace arm and socket .....	2.25
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No. 2799.

**Metal Hoods.****The New Suburban Hood.**

This fixture excels in simplicity of construction. The iron canopy is made with slots to take wires, and linemen can easily and quickly adjust the hoods by this method, thus saving vexatious delays. Any size Hoods made to order at small advance.

Code Word.	List No.	List Price
<i>Lip</i>	2799 Each	\$3.00

Price includes Bracket.



No. 2782.

**The Tidnam Hood.**

JAPANNED GREEN ON TOP, WHITE ENAMEL REFLECTOR.

<i>Lipped</i>	2782	16 Inch, each	1.60
<i>Lipping</i>	2783	18 " "	2.25
<i>Lippingly</i>	2784	20 " "	2.50

Adapted for Weather-proof Globe. In ordering, state size of socket— $\frac{1}{2}$  inch or  $\frac{3}{4}$  inch.



No. 2785.

**The Marten Hood.**

ALL PARTS INTERCHANGEABLE.

<i>Listen</i>	2785	16 Inch, each	2.00
		Socket protected by the Reflector, the Lamp only being exposed.	



No. 2786

**The Chapin Hood.**

<i>Listened</i>	2786	16 Inch, each	1.25
		Socket protected by the Reflector, the Lamp only being exposed.	



No. 2787.

**The Columbian Hood**

<i>Listening</i>	2787	18 Inch, each	1.50
		Socket protected by the Reflector, the Lamp only being exposed.	



No. 2060.

No. 2069.

# Weather-proof Globes.

## Weather-proof, for 16 Candle-power Lamp.

Code Word.	List No.	List Price.
<i>Lillian</i>	2060 Crystal, with Cap, each.....	\$1.00
<i>Lily</i>	2061 " Globe only, " .....	.50
<i>Limber</i>	2062 Blue, with Cap, " .....	1.25
<i>Limberness</i>	2063 " Globe only, " .....	.75
<i>Limekiln</i>	2064 Green, with Cap, " .....	1.25
<i>Limestone</i>	2065 " Globe only, " .....	.75
<i>Limit</i>	2066 Ruby, with Cap, " .....	1.88
<i>Limitable</i>	2067 " Globe only " .....	1.38
<i>Limitation</i>	2068 Cap only for above " .....	.50

## Weather-proof, for 32 Candle-power Lamp.

### SAME PATTERN AS No. 2060.

<i>Limited</i>	2069 Crystal, with Cap, each.....	1.88
<i>Limitless</i>	2070 " Globe only, " .....	.88
<i>Limpid</i>	2071 Blue, with Cap, each .....	2.50
<i>Limpidity</i>	2072 " Globe only, " .....	1.50
<i>Limpidness</i>	2073 Green, with Cap, " .....	2.50
<i>Limsy</i>	2074 " Globe only " .....	1.50
<i>Linch</i>	2075 Ruby, with Cap, " .....	3.13
<i>Linchpin</i>	2076 " Globe only " .....	2.13
<i>Lineage</i>	2077 Caps only for above, each.....	1.00



No. 2078.



No. 2087.

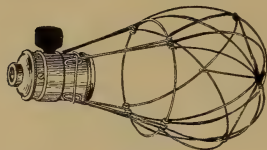
## Weather-proof, for 16 Candle-power Lamp.

<i>Lineal</i>	2078 Crystal, with Cap, each.....	1.00
<i>Lineality</i>	2079 " Globe only, " .....	.50
<i>Lineament</i>	2080 Blue, with Cap, each.....	1.25
<i>Linear</i>	2081 " Globe only, " .....	.75
<i>Lineation</i>	2082 Green, with Cap " .....	1.25
<i>Lineen</i>	2083 " Globe only, " .....	.75
<i>Loftiness</i>	2084 Ruby, with Cap, " .....	1.88
<i>Lofty</i>	2085 " Globe only, " .....	1.38
<i>Logic</i>	2086 Cap only for above, each.....	.50

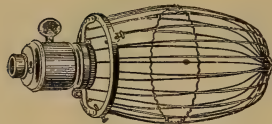
## Vapor-proof, for 16 Candle-power Lamp.

<i>Locating</i>	2087 Crystal, with Cap, each.....	1.88
<i>Locket</i>	2088 " Globe only, " .....	.88
<i>Locksmith</i>	2089 Blue, with Cap, each .....	2.88
<i>Lodge</i>	2090 " Globe only, " .....	1.88
<i>Lodged</i>	2091 Green, with Cap, " .....	2.88
<i>Lodging</i>	2092 " Globe only, " .....	1.88
<i>Lodgment</i>	2093 Ruby, with Cap, " .....	3.50
<i>Loft</i>	2094 " Globe only, " .....	2.50
<i>Loftily</i>	2095 Cap only for above, each.....	1.00





No. 2803



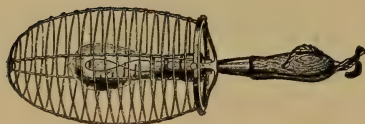
No. 2806.



No. 2807.



No. 2809



No. 2058.

## Wire Guards.

Code Word.	List No.	List Price.
<i>Deaconess</i>	2803	Polished Brass, per dozen.....\$1.75
<i>Deaden</i>	2804	Tinned, per dozen..... 1.50

<i>Deadly</i>	2806	Tinned, per dozen..... 1.75
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For  $3\frac{1}{4}$  inch Holder only.

<i>Acclamatory</i>	2807	Polished Brass, per dozen..... 2.00
<i>Acclivity</i>	2808	Tinned, per dozen..... 1.50

<i>Accompany</i>	2809	Galvanized Iron, each..... .20
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For  $3\frac{1}{4}$  inch Holder only.

<i>Linger</i>	2058	Guard No. 2809, Complete with Handle, Hook and Holder, each .45
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<i>Restate</i>	8725	Handle, with Hook, each..... .20
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# Station, Testing and Measuring Instruments



No. 2281.

## Voltmeter.

A voltmeter specially designed for use on dynamo switchboards. It has no springs nor permanent magnets, is practically dead beat and reliable within one per cent.

The instrument is protected by a substantial bronze case fastened to its base by sealed screws so that it cannot be removed without showing the fact.

Code Word.	List No.		List Price.
<i>Mazy</i>	2281	120 Volts, each.....	\$50.00
<i>Mead</i>	2282	150 " " .....	55.00
<i>Meadow</i>	2283	200 " " .....	60.00
<i>Meager</i>	2284	220 " " .....	65.00
<i>Meagerness</i>	2285	250 " " .....	65.00
<i>Meal</i>	2286	400 " " .....	70.00
<i>Mealiness</i>	2287	500 " " .....	75.00
<i>Mean</i>	2288	600 " " .....	75.00

## Ammeter.

Our improved Magnetic Vane Ammeter has no springs or permanent magnets, is a purely gravity instrument, nearly dead beat, and yet sensitive to small changes of current. Made in sizes varying in range up to a maximum of 600 amperes.

A heavy bronze case with sealed fastenings is used, so that the instrument cannot be tampered with without showing it.

This instrument is adapted to be placed directly in a circuit, no shunts or other devices being used in connection with it.



No. 3375.

<i>Meander</i>	2289	5 Amperes, each.....	16.50
<i>Meaning</i>	2290	10 " " .....	18.00
<i>Meaningly</i>	2291	20 " " .....	18.00
<i>Meanly</i>	2292	30 " " .....	18.00
<i>Meanness</i>	2293	50 " " .....	20.00
<i>Measles</i>	2294	90 " " .....	20.00
<i>Lampoon</i>	3373	120 " " .....	20.00
<i>Lampooned</i>	3374	150 " " .....	21.00
<i>Lance</i>	3375	200 " " .....	21.00
<i>Lanced</i>	3376	300 " " .....	21.00
<i>Lancel</i>	3377	400 " " .....	22.00
<i>Land</i>	3378	500 " " .....	24.00
<i>Landau</i>	3379	600 " " .....	30.00
<i>Landed</i>	3380	750 " " .....	30.00
<i>Landholder</i>	3381	1000 " " .....	40.00
<i>Landlady</i>	3382	1500 " " .....	45.00
<i>Landlock</i>	3383	2000 " " .....	55.00

## Weston Standard Portable Direct Reading Voltmeters.

The following is a list of the Standard Voltmeters kept in stock. Calibrating coils and contact keys are attached to instruments only when so stated. The scales for these instruments are of uniform length, and are divided into 120 or 150 parts, the value of each division being the proportional part of the maximum scale value.

Instruments provided with contact key can be kept permanently in circuit by depressing the key and giving it a quarter turn. All instruments are provided with rubber-covered binding posts.

Code Word.	List No.	List Price.
<i>Betrayal</i>	<b>2609</b> No. 1. Scale 0 to 150 volts by single volt divisions, readable to tenths, each.....	<b>\$55.00</b>
<i>Betrayed</i>	<b>2610</b> No. 2. Scale 0 to 150 volts by single volt divisions, readable to tenths; contact key and calibrating coil, each.....	<b>60.00</b>
<i>Betraying</i>	<b>2611</b> No. 3. Scale 0 to 150 volts and 0 to 5 volts; scale of double values with a ratio of 30. Each division on upper scale values is one volt, readable to tenths; each division on lower scale values $\frac{1}{30}$ of a volt, readable to $\frac{1}{300}$ ; contact key, each.....	<b>75.00</b>
<i>Betay</i>	<b>1179</b> No. 3 $\frac{1}{2}$ . Scale 0 to 150 volts and 0 to 3 volts; scale of double values with a ratio of 50. Each division on upper scale values is one volt, readable to tenths; each division on lower scale values $\frac{1}{50}$ of a volt, readable to $\frac{1}{500}$ ; contact key, each.....	<b>75.00</b>
<i>Betroth</i>	<b>2612</b> No. 4. Scale 0 to 150 volts and 0 to 15 volts; scale of double values with ratio of 10. Each division on upper scale values is one volt, readable to tenths; each division on lower scale values is $\frac{1}{10}$ of a volt, readable to $\frac{1}{100}$ ; contact key, each.....	<b>75.00</b>
<i>Betrothal</i>	<b>2613</b> No. 5. Scale 0 to 300 volts by 2 volt divisions, readable to $\frac{1}{2}$ volt; circuit key and calibrating coil, each.....	<b>65.00</b>
<i>Betrotting</i>	<b>1178</b> No. 6. Scale 0 to 450 volts by 3 volt divisions, readable to $\frac{1}{3}$ volt; contact key and calibrating coil, each.....	<b>70.00</b>
<i>Admiralty</i>	<b>3045</b> No. 7. Scale 0 to 600 volts by 5 volt divisions, readable to $\frac{1}{5}$ volt, each.....	<b>65.00</b>
<i>Admiration</i>	<b>3046</b> No. 8. Scale 0 to 600 volts by 5 volt divisions, readable to $\frac{1}{5}$ volt; contact key and calibrating coil, each.....	<b>70.00</b>



No 3046.

## Weston Standard Portable Direct Reading Voltmeters—(Continued).

Code Word.	List No.	List Price.
<i>Bespeaking</i>	<b>1180</b>	No. 9. Scale 0 to 600 volts and 0 to 150 volts; scale of double values with ratio of 4, reading by 4 volt divisions, readable to $\frac{1}{4}$ volt on upper scale values, and by single volt divisions readable to $\frac{1}{16}$ on lower scale values; contact key, each..... <b>\$80.00</b>
<i>Bespoke</i>	<b>1193</b>	No. 9 $\frac{1}{2}$ . Scale 0 to 750 volts and 0 to 150 volts; scale of double values with ratio of 5, reading by 5 volt divisions, readable to $\frac{1}{5}$ volt on upper scale values, and by single volt divisions readable to $\frac{1}{10}$ volt on lower scale values; contact key, each..... <b>80.00</b>
<i>Bestain</i>	<b>1194</b>	No. 10. Scale 0 to 600 volts and 0 to 300 volts; scale of double values with ratio of 2, reading by 4 volt divisions, readable to $\frac{1}{4}$ volt on upper scale values, and by 2 volt divisions, readable to $\frac{1}{2}$ volt on lower scale values; contact key, each..... <b>80.00</b>
<i>Bestir</i>	<b>1195</b>	No. 11. Scale 0 to 750 volts by 5 volt divisions, readable to $\frac{1}{5}$ volt, each..... <b>70.00</b>
<i>Bestore</i>	<b>1196</b>	No. 12. Scale 0 to 1,500 volts by 10 volt divisions, readable to single volts, each..... <b>80.00</b>

Voltmeters of other ranges, with one or more scale values, will be made on special order.

## High Range Voltmeters

In which part of the resistance is contained in a separate box specially designed to obtain high insulation. No calibrating coil or contact key.

<i>Bestowing</i>	<b>1197</b>	No. 13. Range 0 to 2,250 volts and 0 to 150 volts. No. 1 Voltmeter, with scale from 0 to 150 volts and a special resistance box multiplying the value of the scale divisions by 15, each..... <b>100.00</b>
<i>Bestride</i>	<b>1198</b>	No. 14. Range 0 to 3,000 volts and 0 to 150 volts. No. 1 Voltmeter, with scale from 0 to 150 volts and a special resistance box multiplying the value of the scale divisions by 20, each..... <b>105.00</b>
<i>Bestriding</i>	<b>1199</b>	No. 15. Range 0 to 3,750 volts and 0 to 150 volts. No. 1 Voltmeter, with scale from 0 to 150 volts and a special resistance box multiplying the value of the scale divisions by 25, each..... <b>115.00</b>
<i>Betake</i>	<b>1183</b>	No. 16. Range 0 to 4,500 volts and 0 to 150 volts. No. 1 Voltmeter, with scale from 0 to 150 volts and a special resistance box multiplying the value of the scale divisions by 30, each..... <b>125.00</b>

### High Range Voltmeters—(Continued).

Code Word.	List No.	List Price.
<i>Betaken</i>	1184	No. 17. Range 0 to 5,250 volts and 0 to 150 volts. No. 1 Voltmeter, with scale from 0 to 150 volts and a special resistance box multiplying the value of the scale divisions by 35, each..... \$135.00
<i>Betray</i>	3047	No. 18. Range 0 to 6,000 volts and 0 to 150 volts. No. 1 Voltmeter, with scale from 0 to 150 volts and a special resistance box multiplying the value of the scale divisions by 40, each ..... 145.00

The above listed High Range Voltmeters graduated to read in lamps, in addition to the graduation in volts, showing by simple inspection the number of arc lamps burning on the circuit, additional, each, \$5.00.

### Reversing Keys.

For the convenience of those who have occasion to make many and rapid tests of the distribution of potential on electric circuits of unknown polarity, a Reversing Key may be applied, when specially ordered, to any of our voltmeters. This Key enables the user to open the circuit by turning the milled head through an angle of 45 degrees, or to reverse the direction of the current in the instrument by an additional movement of 45 degrees. An arrow cut on the head of the Key points towards the side of the instrument at which the current enters, when the needle is deflected over the scale. Price, extra, \$2 50.

### Milli Voltmeters.

#### A. Low Resistance Instruments, Wound with Copper Wire.

<i>Clarion</i>	2594	No. 1. Scale 0 to $\frac{1}{10}$ volt by 100 divisions, each readable to tenths, each ..... 50.00
<i>Clarinet</i>	2595	No. 2. Scale 0 to $\frac{1}{100}$ volt, right and left, by 100 divisions, each division representing $\frac{1}{10000}$ of a volt, each..... 50.00
<i>Clarissa</i>	2596	No. 3. Scale 0 to $\frac{1}{100}$ volt, right and left, by 100 divisions; supplied with contact key, reducing sensibility 10 times, each ..... 55.00

#### B. High Resistance Instruments, Wound with Special Alloy, Compensated for Temperature.

<i>Commute</i>	3677	No. 4. Scale 0 to .2 volts in 100 divisions, readable to .0002 of a volt, each..... 50.00
<i>Commuted</i>	3678	No. 5. Scale 0 to .3 volts in 150 divisions, readable to .0002 of a volt, each ..... 50.00







No. 3047

### Leather Cases for Weston Portable Volt and Ammeters.

For those electricians who have occasion to travel and carry an instrument with them, a very neat and convenient Sole Leather Case, stiffened, lined with velvet, and supplied with shoulder strap, lock and key, has been devised, and is recommended as giving increased protection against accidental injury to the instrument. Price, when ordered instead of the usual wooden case, extra, \$3.50.

Code Word.	List No.	List Price.
Admittance	3047 Each .....	\$4.00

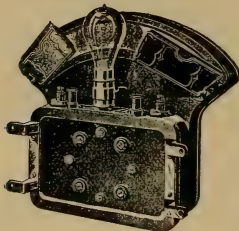
### Weston Illuminated Dial Station Ammeters.

We furnish the cases in two different styles, as follows :

No. 2 Finish.—Border of case and face of letters nickel plated and polished; background of letters, and back case dead black japan. This is a neat and durable finish, and one we highly recommend for general use.

No. 3 Finish.—Border of front and face of letters nickel plated and polished; background of letters dead nickel matt; all parts of back case in sight nickel plated and polished.

Each instrument has attached to it a lamp socket and binding posts for connecting the scale lamp to the circuit. It is also provided with a pair of thin wire leads, with suitable terminals for connecting the instrument to the main or shunt. With each instrument there is sent a pair of detachable mirror supports and detachable mirrors.



### Combined Instruments and Shunts.

<i>Adducible</i>	3067	Finish No. 2,	0 to	200 amp. in	2 amp. divisions	79.50
<i>Adept</i>	3068	" " 3, 0	" 200	" 2	"	84.00
<i>Commenteri</i>	2120	" " 2, 0	" 250	" 2	"	79.50
<i>Comminted</i>	2121	" " 3, 0	" 250	" 2	"	84.00
<i>Comb</i>	2104	" " 2, 0	" 300	" 2	"	79.75
<i>Combat</i>	2105	" " 3, 0	" 300	" 2	"	84.25
<i>Adhesive</i>	3070	" " 2, 0	" 400	" 4	"	80.00
<i>Adipose</i>	3071	" " 3, 0	" 400	" 4	"	84.50
<i>Combustible</i>	2110	" " 2, 0	" 500	" 5	"	81.00
<i>Comedian</i>	2111	" " 3, 0	" 500	" 5	"	85.50
<i>Arjective</i>	3073	" " 2, 0	" 600	" 5	"	82.00
<i>Atjoin</i>	3074	" " 3, 0	" 600	" 5	"	86.50
<i>Comfort</i>	2116	" " 2, 0	" 750	" 5	"	83.00
<i>Comfortable</i>	2117	" " 3, 0	" 750	" 5	"	87.50
<i>Adjudgment</i>	3076	" " 2, 0	" 1,000	" 10	"	84.00
<i>Adjudicate</i>	3077	" " 3, 0	" 1,000	" 10	"	88.50
<i>Command</i>	2122	" " 2, 0	" 1,200	" 10	"	85.00
<i>Commander</i>	2123	" " 3, 0	" 1,200	" 10	"	89.50
<i>Commence</i>	2125	" " 2, 0	" 1,500	" 10	"	90.75
<i>Commencing</i>	2126	" " 3, 0	" 1,500	" 10	"	95.25

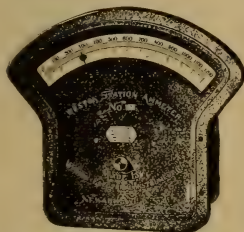
## Weston Illuminated Dial Station Ammeters—

(Continued)

Code Word.	List No.		List Price.
Adjunction	3079	Finish No. 2, 0 to 2,000 amp. in 20 amp. divisions	\$95.25
Adjunctive	3080	" " 3, 0 " 2,000 " 20 "	99.75
Commission	2134	" " 2, 0 " 2,500 " 20 "	96.75
Commit	2135	" " 3, 0 " 2,500 " 20 "	101.25
Committal	2137	" " 2, 0 " 3,000 " 20 "	99.00
Committed	2138	" " 3, 0 " 3,000 " 20 "	103.50
Commandant	2140	" " 2, 0 " 3,500 " 20 "	102.00
Committable	2141	" " 3, 0 " 3,500 " 20 "	106.50
Commix	2143	" " 2, 0 " 4,000 " 30 "	106.50
Commixtion	2144	" " 3, 0 " 4,000 " 30 "	111.00
Commodious	2146	" " 2, 0 " 4,500 " 40 "	114.00
Commodity	2147	" " 3, 0 " 4,500 " 40 "	118.50
Commoner	2149	" " 2, 0 " 5,000 " 50 "	121.50
Commonly	2150	" " 3, 0 " 5,000 " 50 "	126.00
Categorize	1128	" " 2, 0 " 6,000 " 50 "	129.00
Category	1129	" " 3, 0 " 6,000 " 50 "	133.50
Catenary	1130	" " 2, 0 " 7,000 " 50 "	136.50
Catenarian	1137	" " 3, 0 " 7,000 " 50 "	141.00
Clayed	1138	" " 2, 0 " 8,000 " 100 "	151.50
Careful	1139	" " 3, 0 " 8,000 " 100 "	156.00
Colete	1138½	" " 2, 0 " 10,000 " 100 "	166.50
Colery	1239½	" " 3, 0 " 10,000 " 100 "	171.00

## Weston Illuminated Dial Station Ammeters.

Combined Instruments and Shunts—Flush Pattern.



No. 2197.

Comical	2120	Finish No. 2, 0 to 200 amp. in 2 amp. divisions	79.50
Comically	2121	" " 3, 0 " 200 " 2 "	84.00
Come	3068½	" " 2, 0 " 250 " 2 "	79.50
Coming	3067½	" " 3, 0 " 250 " 2 "	84.00
Commanding	2124	" " 2, 0 " 300 " 2 "	79.75
Comment	2127	" " 3, 0 " 300 " 2 "	84.25
Commerce	2130	" " 2, 0 " 400 " 5 "	80.00
Commercial	2131	" " 3, 0 " 400 " 5 "	84.50
Commingle	2132	" " 2, 0 " 500 " 5 "	81.00
Commissary	2133	" " 3, 0 " 500 " 5 "	85.50
Commitment	2136	" " 2, 0 " 600 " 5 "	82.00
Committer	2139	" " 3, 0 " 600 " 5 "	86.50
Committing	2142	" " 2, 0 " 750 " 5 "	83.00
Commode	2145	" " 3, 0 " 750 " 5 "	87.50
Commodore	2148	" " 2, 0 " 1,000 " 10 "	84.00
Conspire	2194	" " 3, 0 " 1,000 " 10 "	88.50
Conspiringly	2197	" " 2, 0 " 1,200 " 10 "	85.00
Constancy	2200	" " 3, 0 " 1,200 " 10 "	89.50
Constantly	2203	" " 2, 0 " 1,500 " 10 "	90.75
Constituent	2206	" " 3, 0 " 1,500 " 10 "	95.25

## Weston Illuminated Dial Station Ammeters—

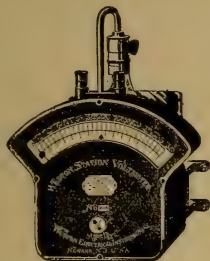
(Continued).

Code Word	List No.		List Price.
<i>Colloquial</i>	2160	Finish No. 2, 0 to 2,000 amp in 20 amp. divisions	\$95.25
<i>Collusive</i>	2163	" " 3, 0 " 2,000 " 20 "	99.75
<i>Colonist</i>	2166	" " 2, 0 " 2,500 " 20 "	96.75
<i>Colony</i>	2169	" " 3, 0 " 2,500 " 20 "	101.25
<i>Colorless</i>	2172	" " 2, 0 " 3,000 " 20 "	99.00
<i>Claying</i>	2173	" " 3, 0 " 3,000 " 20 "	103.50
<i>Careless</i>	2176	" " 2, 0 " 3,500 " 20 "	102.00
<i>Carelessly</i>	2179	" " 3, 0 " 3,500 " 20 "	106.50
<i>Caresed</i>	2182	" " 2, 0 " 4,000 " 30 "	106.50
<i>Dialogue</i>	2185	" " 3, 0 " 4,000 " 30 "	111.00
<i>Diameter</i>	2188	" " 2, 0 " 4,500 " 40 "	114.00
<i>Diamond</i>	2189	" " 3, 0 " 4,500 " 40 "	118.50
<i>Luckily</i>	2190	" " 2, 0 " 5,000 " 50 "	121.50
<i>Luckiness</i>	2191	" " 3, 0 " 5,000 " 50 "	126.00
<i>Luckless</i>	2192	" " 2, 0 " 6,000 " 50 "	129.00
<i>Lucklessly</i>	2193	" " 3, 0 " 6,000 " 50 "	133.50
<i>Lucky</i>	470	" " 2, 0 " 7,000 " 50 "	136.50
<i>Lucrative</i>	471	" " 3, 0 " 7,000 " 50 "	141.00
<i>Litigant</i>	472	" " 2, 0 " 8,000 " 100 "	151.40
<i>Litigate</i>	473	" " 3, 0 " 8,000 " 100 "	156.00
<i>Litu</i>	472½	" " 2, 0 " 10,000 " 100 "	166.50
<i>Litudone</i>	473½	" " 3, 0 " 10,000 " 100 "	171.00

## Extra Shunts for Illuminated Dial Station Ammeters.

<i>Andiron</i>	9400	0 to 200 amp. in 2 amp. divisions.	3.00
<i>Andosen</i>	9400½	0 " 250 " 2 "	3.00
<i>Anemone</i>	9402	0 " 400 " 5 "	3.50
<i>Angel</i>	9403	0 " 500 " 5 "	4.50
<i>Angling</i>	9404	0 " 600 " 5 "	5.50
<i>Angry</i>	9405	0 " 750 " 5 "	6.50
<i>Angular</i>	9406	0 " 1,000 " 10 "	7.50
<i>Angus</i>	9407	0 " 1,200 " 10 "	8.50
<i>Ann</i>	9408	0 " 1,500 " 10 "	14.25
<i>Announce</i>	9410	0 " 2,000 " 20 "	18.75
<i>Lubrication</i>	9411	0 " 2,500 " 20 "	20.25
<i>Lucid</i>	9412	0 " 3,000 " 30 "	22.50
<i>Lucidity</i>	9413	0 " 3,500 " 20 "	25.50
<i>Lucifer</i>	9414	0 " 4,000 " 30 "	30.00
<i>Lumping</i>	9415	0 " 4,500 " 40 "	37.50
<i>Lumpish</i>	9416	0 " 5,000 " 50 "	45.00
<i>Lumpishly</i>	9417	0 " 6,000 " 50 "	52.50
<i>Literature</i>	9418	0 " 7,000 " 50 "	60.00
<i>Lithograph</i>	9419	0 " 8,000 " 100 "	75.00
<i>Litugun</i>	9419½	0 " 10,000 " 100 "	90.00

## Weston Illuminated Dial Station Voltmeters.



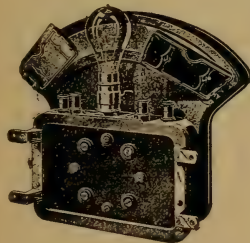
No. 2164.

## Style "A," or Smaller Sized.

Code Word.	List No.	Scale	0 to	85 volts in single volt divisions, finish No. 2	List Price.
<i>Collided</i>	<b>2152</b>	Scale 0 to	85	volts in single volt divisions, finish No. 2	<b>\$55.00</b>
<i>Collier</i>	<b>2153</b>	" 0 "	85	" " " " " "	<b>3 57.50</b>
<i>Collision</i>	<b>2155</b>	" 0 "	100	" " " " " "	<b>2 56.00</b>
<i>Collocate</i>	<b>2156</b>	" 0 "	100	" " " " " "	<b>3 58.50</b>
<i>Colloquy</i>	<b>2158</b>	" 0 "	125	" " " " " "	<b>2 58.00</b>
<i>Collision</i>	<b>2159</b>	" 0 "	125	" " " " " "	<b>3 60.50</b>
<i>Colon</i>	<b>2161</b>	" 0 "	135	" " " " " "	<b>2 60.00</b>
<i>Colonel</i>	<b>2162</b>	" 0 "	135	" " " " " "	<b>3 62.50</b>
<i>Colonizing</i>	<b>2164</b>	" 0 "	150	" " " " " "	<b>2 62.00</b>
<i>Colonnade</i>	<b>2165</b>	" 0 "	150	" " " " " "	<b>3 64.50</b>
<i>Color</i>	<b>2167</b>	" 0 "	250	two " " " " " "	<b>2 64.00</b>
<i>Colorable</i>	<b>2168</b>	" 0 "	250	" " " " " "	<b>3 66.50</b>
<i>Colossal</i>	<b>2170</b>	" 0 "	300	" " " " " "	<b>2 66.00</b>
<i>Colt</i>	<b>2171</b>	" 0 "	300	" " " " " "	<b>3 68.50</b>



No. 3043—Front.



No. 3043—Rear.

## Style "B," or Larger Sized.

<i>Emersion</i>	<b>2174</b>	Scale 0 to 125 volts in single volt divisions, finish No. 2	<b>75.00</b>
<i>Emetic</i>	<b>2175</b>	" 0 " 125 " " " " " "	<b>3 79.50</b>
<i>Emigrant</i>	<b>2177</b>	" 0 " 150 " " " " " "	<b>2 76.00</b>
<i>Emigrate</i>	<b>2178</b>	" 0 " 150 " " " " " "	<b>3 80.50</b>
<i>Emigration</i>	<b>2180</b>	" 0 " 175 " " " " " "	<b>2 77.00</b>
<i>Emile</i>	<b>2181</b>	" 0 " 175 " " " " " "	<b>3 81.50</b>
<i>Embossed</i>	<b>2183</b>	" 0 " 250 " two " " " " "	<b>2 78.00</b>
<i>Embossment</i>	<b>2184</b>	" 0 " 250 " " " " " "	<b>3 82.50</b>
<i>Embottle</i>	<b>2186</b>	" 0 " 300 " " " " " "	<b>2 79.00</b>
<i>Embottled</i>	<b>2187</b>	" 0 " 300 " " " " " "	<b>3 83.50</b>
<i>Adjured</i>	<b>3040</b>	" 0 " 600 " five " " " " "	<b>2 80.00</b>
<i>Adjurer</i>	<b>3041</b>	" 0 " 600 " " " " " "	<b>3 84.50</b>
<i>Adjust</i>	<b>3043</b>	" 0 " 750 " " " " " "	<b>2 81.00</b>
<i>Adjusted</i>	<b>3044</b>	" 0 " 750 " " " " " "	<b>3 85.50</b>

NOTE—For higher ranges, extra multipliers are furnished.

Prices quoted on application. In placing order, please give style of lamp socket.



### Weston Illuminated Dial Station Voltmeters.



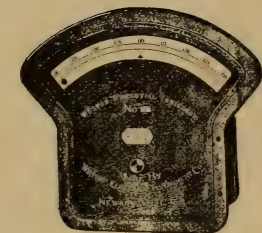
No. 2118.

Code Word.	List No.	Flush Pattern.	List Price.
<i>Columbine</i>	2100	Scale 0 to 125 volts in single volt divisions, finish No. 2	\$75.00
<i>Columb</i>	2101	" 0 " 125 " " " " " "	3 79.50
<i>Coma</i>	2102	" 0 " 150 " " " " " "	2 76.00
<i>Comatose</i>	2103	" 0 " 150 " " " " " "	3 80.50
<i>Combatant</i>	2106	" 0 " 175 " " " " " "	2 77.00
<i>Combainable</i>	2107	" 0 " 175 " " " " " "	3 81.50
<i>Combination</i>	2108	" 0 " 250 " two " " "	2 78.00
<i>Combine</i>	2109	" 0 " 250 " " " " " "	3 82.50
<i>Comedy</i>	2112	" 0 " 300 " " " " " "	2 79.00
<i>Comet</i>	2113	" 0 " 300 " " " " " "	3 83.50
<i>Cometary</i>	2114	" 0 " 600 " five " " "	2 80.00
<i>Comfort</i>	2115	" 0 " 600 " " " " " "	3 84.50
<i>Comforted</i>	2118	" 0 " 750 " " " " " "	2 81.00
<i>Comic</i>	2119	" 0 " 750 " " " " " "	3 85.50

NOTE—For higher ranges, extra multipliers are furnished. Prices quoted on application. In placing order, please give style of lamp socket.

### Weston Potential Indicators.

In the Potential Indicator a modification is made in the interior part of the instrument for the purpose of securing a much larger movement of the index for a single volt. In an instrument having a range of 150 volts we can secure a movement of the index equal to about one-third of an inch for a change of one volt in pressure; but this instrument would only begin to read at 90 volts. The instruments are so constructed that the index will be very near the centre of the scale for the normal voltage. The scale is figured in two ways: (1) in volts only, or (2) two sets of figures are given, one set giving the actual voltage, and the other set indicating the number of volts above or below the normal voltage, which is marked zero. The prices for these instruments are the same as for corresponding ranges of Style "B" Illuminated Dial Station Voltmeters.



ILLUMINATED DIAL, FLUSH PATTERN.



ILLUMINATED DIAL, STANDARD.

## Weston Railway, Isolated Plant and Feeder Voltmeters.

FOR DIRECT CURRENT CIRCUITS ONLY.

### Round Pattern.

Code Word.	List No.	List Price.
<i>Herbert</i>	<b>1185</b> No. 1, 3 Volt Scale. Scale of 150 divisions, each division equal to .02 of a volt and readable to tenths of a division, or .002 volts in any part of the scale, each.....	<b>\$25.00</b>
<i>Horatio</i>	<b>1187</b> No. 2, 6 Volt Scale. Scale of 120 divisions, each division equal to .05 of a volt and readable to tenths of a division, or .005 volts in any part of the scale, each.....	<b>25.00</b>
<i>Hardness</i>	<b>1188</b> No. 3, 15 Volt Scale. Scale of 150 divisions, each division equal to .1 of a volt and readable to tenths of a division, or .01 volt in any part of the scale, each.....	<b>25.00</b>
<i>Hardship</i>	<b>1189</b> No. 4, 25 Volt Scale. Scale of 125 divisions, each division equal to .2 of a volt and readable to tenths of a division, or .02 volt in any part of the scale, each.....	<b>26.00</b>
<i>Haretip</i>	<b>1190</b> No. 5, 50 Volt Scale. Scale of 100 divisions, each division equal to .5 of a volt and readable to tenths of a division, or .05 volt in any part of the scale, each.....	<b>26.50</b>
<i>Haretypied</i>	<b>1940</b> No. 6, 75 Volt Scale. Scale of 150 divisions, each division equal to .5 of a volt and readable to tenths of a division, or .05 volt in any part of the scale, each.....	<b>27.25</b>
<i>Harem</i>	<b>1941</b> No. 7, 125 Volt Scale. Scale of 125 divisions, each division equal to 1 volt and readable to tenths of a division, or .1 volt in any part of the scale, each.....	<b>28.25</b>
<i>Harecot</i>	<b>1942</b> No. 8, 150 Volt Scale. Scale of 150 divisions, each division equal to 1 volt and readable to tenths of a division, or .1 volt in any part of the scale, each.....	<b>29.50</b>
<i>Hairent</i>	<b>1942½</b> 250 Volt Scale. Scale of 125 Divisions, each division equal to 2 volts and readable to tenths of a division or .1 volt in any part of the scale, each.....	<b>31.50</b>
<i>Hartequin</i>	<b>1943</b> No. 9, 300 Volt Scale. Scale of 150 divisions, each division equal to 2 volts and readable to tenths of a division, or .2 volt in any part of the scale, each.....	<b>32.50</b>
<i>Adjuster</i>	<b>3050</b> No. 10, 600 Volt Scale. Scale of 120 divisions, each division equal to 5 volts and readable to tenths of a division, or .5 volt in any part of the scale, each.....	<b>35.00</b>
<i>Adjustive</i>	<b>3051</b> No. 11, 750 Volt Scale. Scale of 150 divisions, each division equal to 5 volts and readable to tenths of a division, or .5 volt in any part of the scale, each.....	<b>37.00</b>



No. 1942.

## Weston Railway, Isolated Plant and Feeder Ammeters.

FOR DIRECT CURRENT CIRCUITS ONLY.

Code Word.	List No.	Round Pattern.	List Price.
<i>Hoea</i>	1944	No. 1, 1 Ampere Scale. Instrument combined with shunt. Scale of 100 divisions, each division equal to .01 of an ampere, readable to tenths of a division, or .001 ampere in any part of the scale, each.....	\$25.00
<i>Hugh</i>	1945	No. 2, 5 Ampere Scale. Instrument combined with shunt. Scale of 100 divisions, each division equal to .05 of an ampere, readable to tenths of a division, or .005 ampere in any part of the scale, each.....	25.00
<i>Huldan</i>	1946	No. 3, 10 Ampere Scale. Instrument combined with shunt. Scale of 100 divisions, each division equal to .1 of an ampere, readable to tenths of a division, or .01 ampere in any part of the scale, each.....	25.00
<i>Humphrey</i>	1947	No. 4, 15 Ampere Scale. Instrument combined with shunt. Scale of 150 divisions, each division equal to .1 of an ampere, readable to tenths of a division, or .01 ampere in any part of the scale, each.....	25.00
<i>Bigot</i>	1999	No. 5, 25 Ampere Scale. Instrument combined with shunt. Scale of 125 divisions, each division equal to .5 of an ampere, readable to tenths of a division, or .05 ampere in any part of the scale, each.....	25.00
<i>Bigoted</i>	2000	No. 6, 50 Ampere Scale. Instrument combined with shunt. Scale of 100 divisions, each division equal to .5 of an ampere, readable to tenths of a division, or .05 ampere in any part of the scale, each.....	25.50
<i>Bigotry</i>	1080	No. 7, 75 Ampere Scale. Instrument combined with shunt. Scale of 150 divisions, each division equal to .5 of an ampere, readable to tenths of a division, or .05 ampere in any part of the scale, each.....	26.00
<i>Adjutage</i>	2678	No. 8, 100 Ampere Scale. Instrument with separate shunt. Scale of 100 divisions, each division equal to 1 ampere, readable to tenths of a division, or .1 ampere in any part of the scale, each.....	26.50
<i>Adjutant</i>	3081	No. 9, 150 Ampere Scale. Instrument with separate shunt. Scale of 150 divisions, each division equal to 1 ampere, readable to tenths of a division, or .1 of an ampere in any part of the scale, each.....	27.00

# Weston Railway, Isolated Plant and Feeder Ammeters—(Continued).



No. 3095.

Code Word.	List No.	List Price.
<i>Adjutrix</i>	<b>3082</b> No. 10, 200 Ampere Scale. Instrument with separate shunt. Scale of 100 divisions, each division equal to 2 amperes, readable to tenths of a division, or .2 ampere in any part of the scale, each.....	<b>\$28.00</b>
<i>Administer</i>	<b>3083</b> No. 11, 250 Ampere Scale. Instrument with separate shunt. Scale of 125 divisions, each division equal to 2 amperes, readable to tenths of a division, or .2 ampere in any part of the scale, each.....	<b>28.25</b>
<i>Admirable</i>	<b>3084</b> No. 12, 300 Ampere Scale. Instrument with separate shunt. Scale of 150 divisions, each division equal to 2 amperes, readable to tenths of a division, or .2 ampere in any part of the scale, each.....	<b>28.25</b>
<i>Admiral</i>	<b>3085</b> No. 13, 400 Ampere Scale. Instrument with separate shunt. Scale of 80 divisions, each division equal to 5 amperes, readable to tenths of a division, or .5 ampere in any part of the scale, each.....	<b>28.50</b>
<i>Clauseure</i>	<b>1088</b> No. 14, 500 Ampere Scale. Instrument with separate shunt. Scale of 150 divisions, each division equal to 5 amperes, readable to tenths of a division, or .5 ampere in any part of the scale, each.....	<b>29.50</b>
<i>Clawed</i>	<b>1089</b> No. 15, 600 Ampere Scale. Instrument with separate shunt. Scale of 120 divisions, each division equal to 5 amperes, readable to tenths of a division, or .5 ampere in any part of the scale, each.....	<b>30.50</b>
<i>Clawing</i>	<b>1092</b> No. 16, 750 Ampere Scale. Instrument with separate shunt. Scale of 150 divisions, each division equal to 5 amperes, readable to tenths of a division, or .5 ampere in any part of the scale, each.....	<b>31.50</b>
<i>Clawless</i>	<b>1093</b> No. 17, 1,000 Ampere Scale. Instrument with separate shunt. Scale of 100 divisions, each division equal to 10 amperes, readable to tenths of a division, or 1 ampere in any part of the scale, each.....	<b>32.50</b>
<i>Clay</i>	<b>1094</b> No. 18, 1,200 Ampere Scale. Instrument with separate shunt. Scale of 120 divisions, each division equal to 10 amperes, readable to tenths of a division, or 1 ampere in any part of the scale, each.....	<b>33.50</b>

### Weston Railway Isolated Plant and Feeder Ammeters—(Continued.)

Code Word.	List No.		List Price. Each.
<i>Sarcoma</i>	21361	No. 19, 1500 Ampere Scale, instrument with separate shunt, scale with 150 divisions, each division equal to 10 amperes; readable to tenths of a division or 1 ampere in any part of the scale, each .....	\$39.25
<i>Sarcornatus</i>	21362	No. 20, 2000 Ampere Scale instrument with separate shunt, scale with 100 divisions, each division equal to 20 amperes; readable to tenths of a division or 2 amperes in any part of the scale, each .....	43.75
<i>Sarcophaga</i>	21363	No. 21, 2500 Ampere Scale, instrument with separate shunt, scale with 125 divisions, each division equal to 20 amperes, readable to tenths of a division or 2 amperes in any part of the scale, each .....	45.25

### Differential Volt Meters.

In order to obviate the observing of two independent instruments and the incidental reading errors when bringing up dynamos to the normal voltage for throwing in on bus bar, an illuminated dial differential voltmeter has been devised. There is a difference in construction in these instruments for either two wire or three wire systems.

#### Two Wire System.

<i>Sarcophagus</i>	21364	Scale 130-0-130 volts in 2 divisions, No. 2 finish,	85.00
<i>Sarcophay</i>	21365	" 500-0-500 " 10 " No. 2 "	90.00
<i>Sarcorampus</i>	21366	" 600-0-600 " 10 " No. 2 "	95.00

#### Three Wire System.

<i>Sarcosis</i>	21367	Scale 130-0-130 volts in 2 divisions, No. 2 finish,	85.00
<i>Sarcotic</i>	21368	" 500-0-500 " 10 " No. 2 "	90.00
<i>Sarculation</i>	21369	" 600-0-600 " 10 " No. 2 "	95.00

No. 2 finish is dead-black japan with nickel trimming.

No. 3 finish, which is all nickel plated, brass or copper finish, is \$4.50 extra.



## Weston Portable Standard Direct Reading Volt- meters for Alternating and Direct Current Circuits.

Each instrument is enclosed in a leather case, supplied with shoulder strap, lock and key and furnished with a pair of flexible connecting cords, for both of which no extra charge is made.



No. 2614.

Single Scale Instruments.		
Code Word.	List No.	List Price.
<i>Cleaved</i>	2614	No. 1. Scale 1.5 to 7.5 volts, from 1.5 volt up in $\frac{1}{20}$ volt divisions; best range 2.5 to 6.5 volts, within that range readable to $\frac{1}{200}$ of a volt, each ..... \$60.00
<i>Clearance</i>	2615	No. 2. Scale 1.5 to 10 volts, from 1.5 volt up in $\frac{1}{10}$ volt divisions; best range 4 to 9 volts, within that range readable to $\frac{1}{100}$ of a volt, each ..... 60.00
<i>Cleared</i>	2616	No. 3. Scale 2 to 12 volts, from 2 volts up in $\frac{1}{10}$ volt divisions; best range 5 to 11 volts, within that range readable to $\frac{1}{100}$ of a volt, each ..... 60.00
<i>Clearing</i>	2617	No. 4. Scale 3 to 15 volts, from 3 volts up in $\frac{1}{10}$ volt divisions; best range 5.5 to 12 volts, within that range readable to $\frac{1}{100}$ of a volt, each ..... 60.00
<i>Clearness</i>	2618	No. 5. Scale 3 to 20 volts, from 3 volts up in $\frac{1}{8}$ volt divisions; best range 7 to 18 volts, within that range readable to $\frac{1}{80}$ of a volt, each ..... 60.00
<i>Clearage</i>	2619	No. 6. Scale 10 to 60 volts, from 10 volts up in $\frac{1}{2}$ volt divisions; best range 25 to 55 volts, within that range readable to $\frac{1}{20}$ of a volt, each ..... 60.00
<i>Cleave</i>	2620	No. 7. Scale 15 to 75 volts, from 15 volts up in $\frac{1}{2}$ volt divisions; best range 30 to 65 volts, within that range readable to $\frac{1}{20}$ of a volt, each ..... 60.00
<i>Cleared</i>	2621	No. 8. Scale 20 to 120 volts, from 20 volts up in 1 volt divisions; best range 50 to 110 volts, within that range readable to $\frac{1}{10}$ of a volt, each ..... 65.00
<i>Cleave</i>	2622	No. 9. Scale 30 to 150 volts, from 30 volts up in 1 volt divisions; best range 70 to 125 volts, within that range readable to $\frac{1}{10}$ of a volt, each ..... 67.50
<i>Clef</i>	2623	No. 10. Scale 60 to 300 volts, from 60 volts up in 2 volt divisions; best range 140 to 250 volts, within that range readable to $\frac{1}{2}$ of a volt, each ..... 70.00
<i>Clement</i>	2624	No. 11. Scale 100 to 600 volts, from 100 volts up in 5 volt divisions; best range 250 to 550 volts, within that range readable to $\frac{1}{2}$ of a volt, each ..... 80.00

## Weston Portable Standard Direct Reading Voltmeters for Alternating and Direct Current Circuits—(Continued)

### High Range Voltmeters with Extra Multipliers.

		Single Scale Instruments.		
Code Word.	List No.			List Price.
<i>Cleaved</i>	2625	No. 12. Scale 200 to 1,200 volts; scale like No. 8 with ten times the value (10 volts) per division, each .....		\$ 90.00
<i>Cleanty</i>	2626	No. 13. Scale 300 to 1,500 volts; scale like No. 9 with ten times the value (10 volts) per division, each .....		97.50
<i>Cleanness</i>	2627	No. 14. Scale 400 to 2,400 volts; scale like No. 8 with twenty times the value (20 volts) per division, each .....		100.00
<i>Cleane</i>	2628	No. 15. Scale 600 to 3,000 volts; scale like No. 10 with ten times the value (20 volts) per division, each .....		110.00

### Double Scale Instruments.

In ordering double scale instruments it is necessary to choose the ratio of the two scales, as 1 to 2 for self-contained instruments, since it is not feasible to have the temperature regulator answer for two scales of greater ratio. If a higher range is desired to be obtained by means of a separate multiplier the ratio is not compulsory, since the temperature regulator then answers for the range of the instrument self-contained, while the dimension of the wire in the multiplier is so chosen that temperature corrections for the multiplier are not necessary if the instrument is kept in circuit for only a short time. A self-contained instrument, with single or double scale, can thus be supplied with three or more scale values. For most practical and all laboratory purposes we recommend the double scale instruments as affording a wider range of greater accuracy.

<i>Clergy</i>	2636	No. 16. Scale 3 to 15 volts and 1.5 to 7.5 volts; upper scale like No. 4, lower scale like No. 1, each .....	70.00
<i>Clerical</i>	2637	No. 17. Scale 3 to 20 volts and 1.5 to 10 volts; upper scale like No. 5, lower scale like No. 2, each .....	70.00
<i>Client</i>	2638	No. 18. Scale 20 to 120 volts and 10 to 60 volts; upper scale like No. 8, lower scale like No. 6, each .....	70.00
<i>Cliff</i>	2639	No. 19. Scale 30 to 150 volts and 15 to 75 volts; upper scale like No. 9, lower scale like No. 7, each .....	75.00
<i>Climatic</i>	2640	No. 20. Scale 30 to 200 volts and 15 to 100 volts; upper scale like No. 5, lower scale like No. 2, with ten times the value per division, each .....	75.00
<i>Climatic</i>	2641	No. 21. Scale 60 to 300 volts and 30 to 150 volts; upper scale like No. 10, lower scale like No. 9, each .....	80.00
<i>Climax</i>	2642	No. 22. Scale 100 to 600 volts and 50 to 300 volts; upper scale like No. 11, lower scale like No. 10, each .....	90.00

## Weston Portable Standard Direct Reading Voltmeters for Alternating and Direct Current Circuits—(Continued).



No. 3679.

### Inspectors' Pattern Voltmeters.

Under the name of "Inspectors' Pattern" we furnish the Voltmeters in a highly polished mahogany box, into which the instrument is permanently fastened. All of these instruments are provided with a reversing key. Instead of the regular binding posts, contact pins are provided, on which contact is made by means of contact cups fastened to flexible cords. The flexible cord is either furnished with plain pins or it may be provided with a contact plug to fit our lamp adapters.

#### For Direct Current Circuits.



No. 3684.

Code Word.	List No.	List Price.
<i>Community</i>	3679 Style No. 1. Highly polished mahogany box, with lock and key, flexible connecting cord.	
	Additional to listed price, each.....	\$5.00

<i>Florida</i>	3684 Style No. 3. Highly polished mahogany box, with lock and key; compartment with set of four lamp adapters (Edison, Thomson-Houston, Westinghouse, Weston); flexible connecting cord with plug contact to fit lamp adapters. Additional to listed prices, each...	10.00
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#### For Alternating Current Circuits.



No. 3683.

<i>Fergus</i>	3683 Style No. 2. Highly polished mahogany box, with compartment box with lock and key. The compartment is intended for the reception of the flexible connecting cord and one or more lamp adapters. Additional to listed price, each.....	5.00
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### Plugs, Cords and Lamp Adapters.

The cut shows the flexible conductor, with plug contact for inserting in the Adapters and for quickly reversing the current. These Lamp Adapters are made in four styles—viz., for Edison, Thomson-Houston, Westinghouse and Weston sockets.

Code Word.	List No.	List Price.
<i>Clayish</i>	2629 Price of Single Lamp Adapters, each.....	\$1.25
<i>Claymore</i>	2630 Flexible Connecting Cord, with plug contact, if ordered separately, each.....	1.25
<i>Clean</i>	2631 Flexible Connecting Cord, with plain contact, if ordered separately, each.....	1.25
<i>Ferdinand</i>	3685 Mahogany Box with set of 4 Adapters and Flexible Cord, each.....	7.50

### Whitney Electrical Measuring Instruments.

It is important in ordering instruments to state whether they are to be used in a vertical or horizontal position.

### Whitney Voltmeters for Continuous Currents

#### Class A.

<i>Measy</i>	2295	No. 1.	Scale 0 to 15 volts in $\frac{1}{10}$ volt div., each	20.00
<i>Measure</i>	2296	" 9.	" 0 " 100 " 1 " "	23.00
<i>Measured</i>	2297	" 15.	" 0 " 150 " 1 " "	25.00

NOTE—These instruments will heat if left too long in circuit.

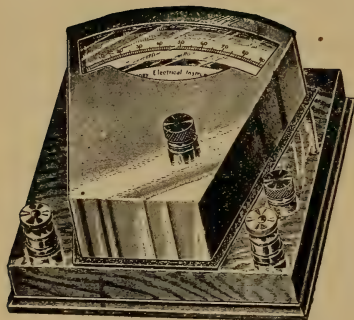
#### Class B.

<i>Measuring</i>	2298	No. 2.	Scale 0 to 15 volts in $\frac{1}{10}$ volt div., each	25.00
<i>Meat</i>	2299	" 10.	" 0 " 100 " 1 " "	28.00
<i>Mechanic</i>	2304	" 16.	" 0 " 150 " 1 " "	30.00
<i>Mechanics</i>	2305	" 21.	" 0 " 300 " 2 " "	40.00
<i>Mechanism</i>	2306	" 25.	" 0 " 600 " 5 " "	50.00
<i>Medalet</i>	2307	" 27.	" 0 " 750 " 5 " "	60.00

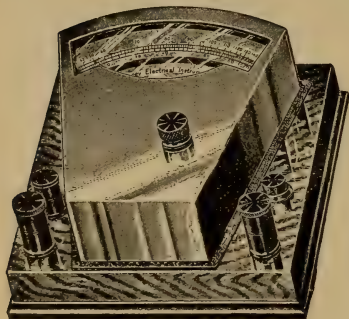
NOTE—These instruments may be left continuously in circuit by giving the contact button a quarter turn.

### Whitney Voltmeters for Alternating Currents.

<i>Medalist</i>	2307	Scale 0 to 75 volts, reading from 15 to 20 volts in 1 volt divisions, from 20 to 75 volts in $\frac{1}{2}$ volt divisions, each.....	40.00
<i>Medallion</i>	2308	Scale 0 to 150 volts, reading from 30 to 40 volts in 2 volt divisions, from 40 to 150 volts in 1 volt divisions, each.....	45.00

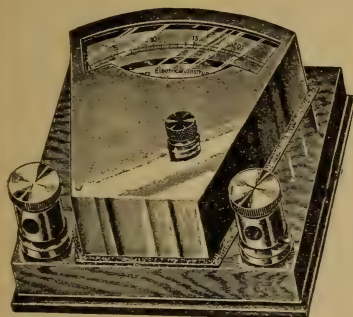


No. 2296.



No. 2307.





No. 2309.

## Whitney Ammeters for Continuous Currents.

Code Word.	List No.	No. 31.	Scale 0 to	10 amp. in $\frac{1}{10}$ amp. div., each	List Price.
<i>Medicinal</i>	2309				\$21.00
<i>Medicine</i>	2310	" 39.	" 0 "	25 " $\frac{1}{2}$ "	23.00
<i>Melitate</i>	2311	" 43.	" 0 "	50 " $\frac{1}{2}$ "	24.00
<i>Meditated</i>	2312	" 47.	" 0 "	100 " 1 "	28.00
<i>Medium</i>	2313	" 51.	" 0 "	150 " 1 "	30.00
<i>Medley</i>	2314	" 55.	" 0 "	280 " 2 "	35.00
<i>Medusa</i>	2315	" 61.	" 0 "	400 " 5 "	45.00
<i>Meek</i>	2316	" 65.	" 0 "	500 " 5 "	50.00
<i>Meekly</i>	2317	" 66.	" 0 "	600 " 5 "	55.00
<i>Meekness</i>	2318	" 67.	" 0 "	700 " 7 "	60.00
<i>Meerschaum</i>	2319	" 68.	" 0 "	800 " 10 "	65.00
<i>Meeting</i>	2320	" 69.	" 0 "	1000 " 10 "	70.00

## Whitney Ammeters for Alternating Currents.

<i>Mellow</i>	2321	Scale 0 to 5 amperes, from 1 to 5 amperes in $\frac{1}{10}$ ampere divisions, each.....	45.00
<i>Melody</i>	2322	Scale 0 to 25 amperes, from 5 to 25 amperes, in $\frac{1}{2}$ ampere divisions, each.....	50.00
<i>Melon</i>	2323	Scale 0 to 50 amperes, from 10 to 50 amperes, in $\frac{1}{2}$ ampere divisions, each.....	55.00
<i>Mitt</i>	2324	Scale 0 to 100 amperes, from 10 to 100 amperes, in 1 ampere divisions, each.....	60.00
<i>Mitted</i>	2325	Scale 0 to 150 amperes, from 15 to 150 amperes, in 1 ampere divisions, each.....	65.00
<i>Melting</i>	2326	Scale 0 to 200 amperes, from 20 to 200 amperes, in 2 ampere divisions, each.....	70.00
<i>Member</i>	2327	Scale 0 to 300 amperes, from 30 to 300 amperes, in 2 ampere divisions, each.....	75.00
<i>Membrane</i>	2328	Scale 0 to 400 amperes, from 40 to 400 amperes, in 4 ampere divisions, each.....	80.00
<i>Memento</i>	2329	Scale 0 to 500 amperes, from 50 to 500 amperes, in 5 ampere divisions, each.....	85.00



No. 2330.

## Carrying Cases for Whitney Instruments.

<i>Memoir</i>	2330	Wooden Carrying Case, with handle, each.....	1.00
<i>Memorial</i>	2331	Leather Carrying Case, with handle and shoulder strap, each.....	4.00



No. 2331.





No. 96.



No. T 115.

### Cardew Standard Voltmeters for Direct and Alternating Circuits.

Code Word.	List	List Price.
<i>Cigar</i>	94 T 142, Cardew Voltmeter, 5 inch dial, range 20 to 80 volts, each.....	\$50.00
<i>Cinchona</i>	95 T 143, Cardew Voltmeter, 5 inch dial, range 30 to 120 volts, each .....	50.00
<i>Citation</i>	97 T 145, multiplying resistance to double capacity, each.....	15.00

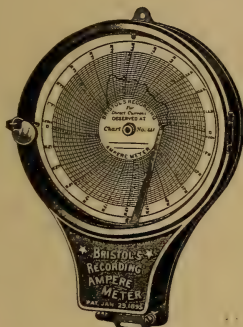
### "Magnetic Vane" Voltmeters.

List Price.	
Style A.	Style B.
T 115, "M. V." Voltmeter, range 2 to 15 volts, dial 4½ inches diameter, each.....	\$25.00 \$30.00
T 116, "M. V." Voltmeter, range 3 to 25 volts, dial 4½ inches diameter, each.....	25.00 30.00
T 117, "M. V." Voltmeter, range 8 to 75 volts, dial 4½ inches diameter, each.....	25.00 30.00
T 118, "M. V." Voltmeter, range 15 to 150 volts, dial 4½ inches diameter, each.....	25.00 30.00
T 119, "M. V." Voltmeter, range 25 to 250 volts, dial 4½ inches diameter, each.....	27.50 32.50
T 120, "M. V." Voltmeter, range 30 to 300 volts, dial 4½ inches diameter, each.....	27.50 32.50
T 121, "M. V." Voltmeter, range 60 to 600 volts, dial 6 inches diameter, each.....	35.00 40.00

Ammeters T 100 to T 105, and Voltmeters T 115 to T 120 are exactly similar in size and appearance, except a necessary difference in the terminals. Ammeters T 106 to T 114 are mounted in larger cases with flanging rims, as indicated. Voltmeter T 121 is like the lower ranges, but somewhat larger.



No. T 109



No. 21370.

### "Magnetic Vane" Ammeters.

The difference between Styles A and B is in material and finish only. Style A is mounted in a neat iron case, with nickel plated trimmings. Style B is finished in handsomely lacquered brass throughout. When ordering be sure to state catalogue number and style of mounting.

		List Price. Each.	
		Style A	Style B.
T 100, "M. V." Ammeter, range 1 to 10 amperes, dial $4\frac{1}{2}$ inches diameter		\$17.50	\$22.50
T 101, "M. V." Ammeter, range 2 to 15 amperes, dial $4\frac{1}{2}$ inches diameter		17.50	22.50
T 102, "M. V." Ammeter, range 3 to 25 amperes, dial $4\frac{1}{2}$ inches diameter		17.50	22.50
T 103, "M. V." Ammeter, range 5 to 50 amperes, dial $4\frac{1}{2}$ inches diameter		17.50	22.50
T 104, "M. V." Ammeter, range 8 to 75 amperes, dial $4\frac{1}{2}$ inches diameter		20.00	25.00
T 105, "M. V." Ammeter, range 10 to 100 amperes, dial $4\frac{1}{2}$ inches diameter		20.00	25.00
T 106, "M. V." Ammeter, range 15 to 150 amperes, dial 6 inches diameter		30.00	37.50

### Bristol's Recording Ampere Meters.

#### For Direct Current.

<i>Sard</i>	21370	Working range to 12 amperes, 24-hour chart, total range 0 to 15 amperes	60.00
<i>Sardachute</i>	21371	Working range to 25 amperes, 24-hour chart, total range 0 to 30 amperes	60.00
<i>Sardun</i>	21372	Working range to 50 amperes, 24-hour chart, total range 0 to 60 amperes	60.00
<i>Sardel</i>	21373	Working range to 165 amperes, 24-hour chart, total range 0 to 180 amperes	60.00
<i>Sardline</i>	21374	Working range to 270 amperes, 24-hour chart, total range 0 to 300 amperes	70.00
<i>Sardins</i>	21375	Working range to 550 amperes, 24-hour chart, total range 0 to 600 amperes	70.00
<i>Satchel</i>	21425	Working range to 1100 amperes, 24-hour chart, total range 0 to 1200 amperes	70.00
<i>Sate</i>	21426	Working range to 2200 amperes, 24-hour chart, total range 0 to 2400 amperes	80.00
<i>Sateless</i>	21427	Working range to 3300 amperes, 24-hour chart, total range 0 to 3600 amperes	85.00

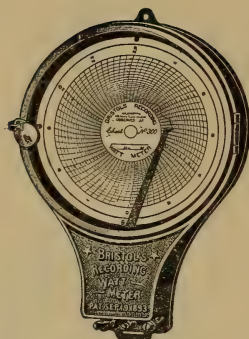
#### For Alternating Current.

<i>Satelite</i>	21428	For 8400 Alts. per minute, working range to 8 amperes, 24-hour chart, total range 0 to 10 amperes	60.00
<i>Satellites</i>	21429	For 15000 Alts. per minute, working range to 80 amperes, 24-hour chart, total range 0 to 100 amperes	60.00

Ink and 100 charts with each instrument. Meters for other ranges made to order.



No. 21379.



No. 21893.

## Bristol's Recording Voltmeters.

### For Direct Current.

Code Word.	List No.		List Price. Each.
<i>Sardinian</i>	21376	Working range to 5 volts, 24-hour chart, total range 0 to 6 volts .....	\$60.00
<i>Sardoin</i>	21377	Working range to 25 volts, 24-hour chart, total range 0 to 25 volts .....	60.00
<i>Sardonic</i>	21378	Working range to 55 volts, 24-hour chart, total range 0 to 60 volts .....	60.00
<i>Sardonix</i>	21379	Working range to 110 volts, 24-hour chart, total range 0 to 120 volts .....	60.00
<i>Saree</i>	21380	Working range to 120 volts, 24-hour chart, total range 0 to 130 volts .....	60.00
<i>Sargasso</i>	21381	Working range to 130 volts, 24-hour chart, total range 0 to 140 volts .....	60.00
<i>Sari</i>	21382	Working range to 260 volts, 24-hour chart, total range 0 to 280 volts .....	60.00
<i>Sarique</i>	21383	Working range to 275 volts, 12-hour chart, total range 0 to 300 volts .....	60.00
<i>Sark</i>	21384	Working range to 550 volts, 24-hour chart, total range 0 to 600 volts .....	60.00
<i>Sarlac</i>	21385	Working range to 550 volts, 12-hour chart, total range 0 to 600 volts .....	60.00
<i>Sarlyk</i>	21386	Working range to 600 volts, 24-hour chart, total range 0 to 650 volts .....	60.00

### For Alternating Current.

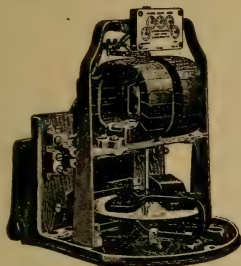
<i>Sarking</i>	21387	Working range to 60 volts, 24-hour chart, total range 0 to 65 volts .....	60.00
<i>Sarmatian</i>	21388	Working range to 60 volts, 24-hour chart, total range 0 to 70 volts .....	60.00
<i>Sarmatic</i>	21389	Working range to 110 volts, 24-hour chart, total range to 120 volts .....	60.00
<i>Sarment</i>	21390	Working range to 120 volts, 24-hour chart, total range to 130 volts .....	60.00
<i>Sarmentatus</i>	21391	Working range to 150 volts, 24-hour chart, total range 0 to 160 volts .....	60.00

## Bristol's Recording Watt Meters.

### For Direct Current.

<i>Sarmentose</i>	21392	Working range to 5 K-W, all voltages, 24-hour chart, total range 0 to 6 Kilo Watts .....	65.00
<i>Sarn</i>	21393	Working range to 15 K-W, all voltages, 24-hour chart, total range 0 to 18 Kilo Watts .....	65.00
<i>Sarony</i>	21394	Working range to 25 K-W, all voltages, 24-hour chart, total range 0 to 30 Kilo Watts .....	65.00
<i>Saros</i>	21395	Working range to 75 K-W, all voltages, 24-hour chart, total range 0 to 90 Kilo Watts .....	75.00
<i>Sarplar</i>	21396	Working range to 150 K-W, all voltages, 12-hour chart, total range 0 to 180 Kilo Watts ..	75.00

Ink and 100 charts with each instrument. Meters for other ranges made to order.



No. 6843.

### Thompson Recording Watt Meters.

The Thompson Recording Watt Meter is a motor meter and measures accurately the amount of power consumed in the circuit upon which it is placed. It is designed for use on both alternating and direct currents, and for the measurement of light or power energy in either large or small quantities. The following are the standard sizes and net prices:

#### TWO WIRE, 50 VOLTS.

Code Word.	List No.	Amperes.	Lamps 16 C. P.	List Price. Each.
<i>Nabob</i>	6843	10	10	25.00
<i>Nacre</i>	6540	15	15	30.00
<i>Narrite</i>	6541	25	25	36.00
<i>Nairid</i>	6542	50	50	45.00
<i>Naidor</i>	6542½	75	75	55.00
<i>Nail</i>	6543	100	100	70.00
<i>Nailing</i>	6544	150	150	80.00
<i>Nailed</i>	6950	300	300	110.00
<i>Naively</i>	6951	600	600	150.00
<i>Naked</i>	6964	1,200	1,200	250.00
<i>Nob</i>	6964½	2,500	2,500	330.00
<i>Nabit</i>	6965½	5,000	5,000	370.00
<i>Nablum</i>	6968½	8,000	8,000	400.00

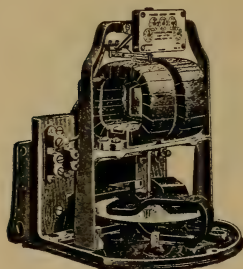
Thirty Volt Meters for use in connection with Constant Potential Arc Lighting Circuits will be furnished at the price of the same Ampere capacity of 50 Volt Meters.

#### TWO WIRE, 100 TO 110 VOLTS.

<i>Nankeen</i>	6935	5	10	27.50
<i>Nope</i>	6734	10	20	30.00
<i>Naptha</i>	6565	15	30	33.00
<i>Napkin</i>	6566	25	50	45.00
<i>Napless</i>	6567	50	100	50.00
<i>Nacarut</i>	6567	75	150	70.00
<i>Nuppy</i>	6568	100	200	80.00
<i>Nurcissus</i>	6569	150	300	100.00
<i>Nach</i>	6569	200	400	110.00
<i>Narcotic</i>	6954	300	600	130.00
<i>Nacker</i>	6954	450	900	160.00
<i>Narrative</i>	6955	600	1,200	190.00
<i>Narrow</i>	6965	1,200	2,400	320.00
<i>Saprot</i>	6966	2,500	5,000	380.00
<i>Sapsogo</i>	6967	5,000	10,000	425.00
<i>Sapskull</i>	6968	8,000	16,000	460.00

#### THREE WIRE, 220 VOLTS.

<i>Narrowing</i>	6735	7½	33	35.00
<i>Narrower</i>	6563	15	66	50.00
<i>Nasal</i>	6597	25	110	60.00
<i>Natal</i>	6570	50	220	75.00
<i>Nacreous</i>	6570	75	300	85.00
<i>Nation</i>	6571	100	440	100.00
<i>Native</i>	6572	150	60	125.00



No. 6948.

## Thomson Recording Watt Meters—(Continued.)

## For Power Service.

## Two WIRE, 220 VOLTS.

Code Word.	List No.	Amperes.	Horse-power.	List Price. Each.
<i>Natively</i>	6948	5	1½	\$ 36.50
<i>Nativity</i>	6538	15	3½	50.00
<i>Natural</i>	6555	25	7	60.00
<i>Naturalist</i>	6556	50	15	70.00
<i>Nadub</i>	6556½	75	20	85.00
<i>Naturalize</i>	6557	100	25	100.00
<i>Nature</i>	6558	150	40	120.00
<i>Nadir</i>	6558½	200	50	135.00
<i>Nausea</i>	6813	300	80	150.00
<i>Nadelstein</i>	6813½	450	125	190.00
<i>Naze</i>	6814	600	160	220.00
<i>Navigable</i>	6966	1,200	320	300.00
<i>Naeve</i>	6966½	2,500	700	425.00
<i>Naeuse</i>	6970½	5,000	1,400	475.00
<i>Nufe</i>	6971½	8,000	2,200	520.00

## Two WIRE, 500 VOLTS.

<i>Astride</i>	6949	3	1½	\$ 40.00
<i>Naff</i>	6950½	10	5	55.00
<i>Astringe</i>	6539	15	7½	60.00
<i>Astringency</i>	6559	25	15	65.00
<i>Astringent</i>	6560	50	30	85.00
<i>Nag</i>	6560½	75	50	100.00
<i>Astringing</i>	6561	100	60	110.00
<i>Astrology</i>	6562	150	100	125.00
<i>Naggy</i>	6562½	200	120	150.00
<i>Astronomer</i>	6815	300	200	175.00
<i>Nagor</i>	6815½	450	300	225.00
<i>Astute</i>	6816	600	400	275.00
<i>Astutely</i>	6967	1,200	800	375.00
<i>Nacint</i>	6973½	2,500	1,600	450.00
<i>Nnis</i>	6974½	5,000	3,200	500.00
<i>Nuif</i>	6975½	8,000	5,400	550.00

## Primary Circuits

## 1,000 TO 2,000 VOLTS. PRICES INCLUDE TRANSFORMER.

	Amperes	
<i>Nailball</i>	6572½	10..... 80.00
<i>Navigably</i>	9573	20..... 90.00
<i>Nacigate</i>	6574	30..... 100.00
<i>Navigator</i>	6575	60..... 125.00
<i>Navigation</i>	6576	120..... 160.00
<i>Neel</i>	6577	300..... 210.00
<i>Nailbrush</i>	6577½	600..... 300.00

## Portable Meters for Street Car Testing, Etc.

## 500 VOLTS.

<i>Nailer</i>	21000	1½ H. P.,	3 Amp..... 55.00
<i>Naileress</i>	21001	7½ " "	15 "..... 70.00
<i>Nailery</i>	21002	15 " "	25 "..... 85.00
<i>Nailheaded</i>	21003	30 " "	50 "..... 100.00



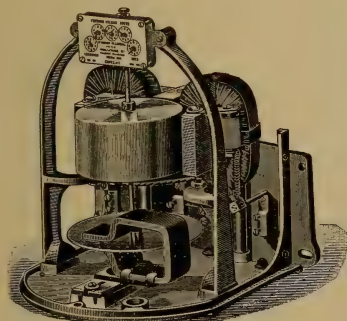
## Thomson Recording Watt Meters—(Continued.)

## Arc Circuit Meters.

Code Word.	List No.		List Price. Each.
<i>Nainsook</i>	21004	4 lights, 6 $\frac{3}{16}$ Amp.	65.00
<i>Naissant</i>	21005	4 " 10 "	65.00
<i>Naivel</i>	21006	8 " 6 $\frac{3}{16}$ "	75.00
<i>Naivete</i>	21007	8 " 10 "	75.00

## Arc Circuit Station Meters.

<i>Namelessly</i>	21008	35 lights, 6 $\frac{3}{16}$ Amp.	110.00
<i>Nameplate</i>	21009	35 " 10 "	110.00
<i>Namingly</i>	21010	50 " 6 $\frac{3}{16}$ "	125.00
<i>Nan</i>	21011	50 " 10 "	125.00
<i>Nandor</i>	21012	65 " 6 $\frac{3}{16}$ "	135.00
<i>Nandu</i>	21013	65 " 10 "	135.00
<i>Nantes</i>	21014	80 " 6 $\frac{3}{16}$ "	150.00
<i>Nap</i>	21015	80 " 10 "	150.00



No. 21404.

## The Scheffer Recording Watt Meter.

For Alternating Circuits.

LIGHTS RATED ON A BASIS OF 50 WATTS PER LAMP.

## 50 Volts.

<i>Sartorial</i>	21404	10 Lights, 10 Amperes	\$24.00
<i>Sartorious</i>	21405	15 " 15 "	28.00
<i>Sary</i>	21406	20 " 20 "	32.00
<i>Sash</i>	21407	30 " 30 "	37.00
<i>Sashorn</i>	21408	40 " 40 "	41.00
<i>Sasin</i>	21409	50 " 50 "	45.00
<i>Sassafras</i>	21410	75 " 75 "	55.00
<i>Sassanage</i>	21411	100 " 100 "	70.00
<i>Sasse</i>	21412	150 " 150 "	80.00
<i>Sassolin</i>	21413	300 " 300 "	110.00

## 100 to 110 Volts.

<i>Sassoral</i>	21414	10 Lights, 5 Amperes	25.00
<i>Sassoralla</i>	21415	20 " 10 "	28.00
<i>Sassybark</i>	21416	30 " 15 "	33.00
<i>Sastra</i>	21417	40 " 20 "	41.00
<i>Sat</i>	21418	50 " 25 "	45.00
<i>Satan</i>	21419	60 " 30 "	47.00
<i>Satanic</i>	21420	70 " 35 "	48.00
<i>Satanical</i>	21421	100 " 50 "	50.00
<i>Satanism</i>	21422	150 " 75 "	70.00
<i>Satanist</i>	21423	200 " 100 "	80.00
<i>Satanophomy</i>	21424	300 " 150 "	100.00



## Duncan Alternating Current Recording Meters

(Continued.)

### Primary Meters for 1,000 or 2,000 Volt Currents—(Continued.)

Code Word.	List No.		Price List. Each.
<i>Scupper</i>	21678	30 Amperes.....	46.00
<i>Scarf</i>	21679	40 ".....	49.00
<i>Scurlous</i>	21680	50 ".....	54.00
<i>Scurry</i>	21681	60 ".....	60.00
<i>Scutcheon</i>	21682	80 ".....	72.00
<i>Scuttle</i>	21683	100 ".....	84.00
<i>Srythe</i>	21684	120 ".....	96.00
<i>Sea</i>	21685	160 ".....	120.00
<i>Seaboard</i>	21686	200 ".....	144.00



## Duncan Recording Wattmeters for Alternating Currents.

Lamp Rating based upon 50 Watt Lamps.

### For 50 Volt Circuits.

<i>Scorcher</i>	21687	5 16 c. p. Lamps Capacity or	5 Amperes....	\$25.00
<i>Scal-</i>	21688	10 " " " "	10 ".....	25.00
<i>Scam</i>	21689	15 " " " "	15 ".....	30.00
<i>Scamun</i>	21690	20 " " " "	20 ".....	33.00
<i>Scamstress</i>	21691	25 " " " "	25 ".....	36.00
<i>Scar</i>	21692	30 " " " "	30 ".....	38.00
<i>Scarch</i>	21693	40 " " " "	40 ".....	41.00
<i>Season</i>	21694	50 " " " "	50 ".....	45.00
<i>Seasonorthy</i>	21695	60 " " " "	60 ".....	50.00
<i>Scut</i>	21696	80 " " " "	80 ".....	60.00
<i>Scavours</i>	21697	100 " " " "	100 ".....	70.00
<i>Scout</i>	21698	120 " " " "	120 ".....	80.00
<i>Secede</i>	21699	160 " " " "	160 ".....	100.00
<i>Seckel</i>	21700	200 " " " "	200 ".....	120.00

### For 100 Volt Circuits.

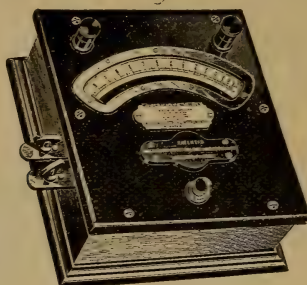
<i>Seclude</i>	21701	10 16 c. p. Lamps Capacity or	5 Amperes....	28.00
<i>Second</i>	21702	20 " " " "	10 ".....	30.00
<i>Seect-</i>	21703	30 " " " "	15 ".....	33.00
<i>Seectuary</i>	21704	40 " " " "	20 ".....	37.00
<i>Secrete</i>	21705	50 " " " "	25 ".....	41.00
<i>Set</i>	21706	60 " " " "	30 ".....	45.00
<i>Settle</i>	21707	80 " " " "	40 ".....	50.00
<i>Settion</i>	21708	100 " " " "	50 ".....	55.00
<i>Sector</i>	21709	120 " " " "	60 ".....	60.00
<i>Seclur</i>	21710	160 " " " "	80 ".....	75.00
<i>Seclure</i>	21711	200 " " " "	100 ".....	85.00
<i>Seclun</i>	21712	240 " " " "	120 ".....	95.00
<i>Seclude</i>	21713	320 " " " "	160 ".....	115.00
<i>Seclutice</i>	21714	400 " " " "	200 ".....	135.00

### For Primary Circuits, 1,000 or 2,000 Volts.

(Price includes Transformer.)

<i>Sedentary</i>	21715	5 Amperes.....	75.00
<i>Sedge</i>	21716	10 ".....	80.00
<i>Sediment</i>	21717	15 ".....	85.00
<i>Sedition</i>	21718	20 ".....	90.00
<i>Sedure</i>	21719	25 ".....	95.00
<i>Seduloux</i>	21720	30 ".....	100.00
<i>Sed</i>	21721	40 ".....	110.00
<i>Sedly</i>	21722	50 ".....	118.00
<i>Seck</i>	21723	60 ".....	125.00
<i>Secon</i>	21724	80 ".....	140.00
<i>Seemly</i>	21725	100 ".....	150.00
<i>Secon</i>	21726	120 ".....	160.00
<i>Seer</i>	21727	160 ".....	175.00
<i>Seethe</i>	21728	200 ".....	190.00

## Weston Portable Wattmeters.



No 3686

Code Word.	List No.				Maximum Current.	Maximum Voltage.	List Price.	
<i>Ladyism</i>	<b>3686</b>	No.	0 to 150 watts in 1 watt divisions, 2 amperes, 150 volts, each.....				<b>\$70.00</b>	
<i>Ladylike</i>	<b>3687</b>	{	" 1A	0 " 75	" $\frac{1}{2}$	" 2 " 75	}..... <b>75.00</b>	
			" 0 " 150	" 1	" 2 " 150	" }		
<i>Lacerta</i>	<b>3688</b>	No. 1B, 0 to 150 watts in 1 watt divisions, for inspectors, sales agents and manufacturers of incandescent lamps, especially designed for ready connections to any lamp socket of any system. In a highly polished carrying case of cherry are contained the Wattmeter, a set of four lamp adapters, etc., same as furnished with the No. 3683 Inspectors' Voltmeter. ....						<b>85.00</b>
					Maximum Current.	Maximum Voltage.		
<i>Lacertian</i>	<b>3689</b>	No. 2.	0 to 1,500 watts in 10 watt divisions,		10 amperes, 150 volts, each.....		<b>70.00</b>	
<i>Lacertilian</i>	<b>3690</b>	{	" 2A.	0 " 750	" 5	" 10 " 75	}..... <b>75.00</b>	
			" 0 " 1,500	" 10	" 10 " 150	" }		
<i>Lacertine</i>	<b>3691</b>	" 3	0 " 3,750	" 25	" 25 " 150	" ..... <b>75.00</b>		
<i>Lacuna</i>	<b>3692</b>	{	" 3A	0 " 1,500	" 10	" 25 " 75	}..... <b>80.00</b>	
			" 0 " 3,000	" 20	" 25 " 150	" }		
<i>Lactuca</i>	<b>3693</b>	" 4.	0 " 7,500	" 50	" 50 " 150	" ..... <b>75.00</b>		
<i>Lacunar</i>	<b>3694</b>	{	" 4A.	0 " 3,750	" 25	" 50 " 75	}..... <b>80.00</b>	
			" 0 " 7,500	" 50	" 50 " 150	" }		
<i>Laminate</i>	<b>3695</b>	" 5	0 " 15,000	" 100	" 100 " 150	" ..... <b>80.00</b>		
<i>Lanary</i>	<b>3695</b>	{	" 5A.	0 " 7,500	" 50	" 100 " 75	}..... <b>85.00</b>	
			" 0 " 15,000	" 100	" 100 " 150	" }		
<i>Lamellar</i>	<b>3697</b>	" 6	0 " 30,000	" 200	" 200 " 150	" ..... <b>85.00</b>		
<i>Lamelliform</i>	<b>3698</b>	{	" 6A.	0 " 15,000	" 100	" 200 " 75	}..... <b>90.00</b>	
			" 0 " 30,000	" 200	" 200 " 150	" }		

The above prices include a Carrying Case of polished cherry. For all ranges from No. 3 upwards this Carrying Case contains a separate compartment for linen covered flexible cables furnished with the instrument. These cables are provided with special terminals to insure good contacts on the instruments, and are of sufficiently large cross-section to carry the maximum current for which the instrument is designed.



No. 6699.

**Meter Sealing Tools.**

Code Word.	List No.	List Price.
<i>Atlantic</i>	6699	Large Size Sealing Tool, each..... \$9.50



No. 6970.

<i>Atlantic</i>	6970	Small Pocket Sealing Tool, each..... 2.75
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No. 6705.

<i>Atlas</i>	6705	Lead Seals and Wires for large tool, per 1,000..... 8.50
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No. 6968.

<i>Atmosphere</i>	6968	Lead Seals and Wires for Pocket Tool, per 1,000..... 8.50
		Meter Reading Books, each..... 1.35
		Meter Rate Chart, each..... 1.85



No. 2254.

**Post Office Bridge and Rheostat.**

<i>Miasmal</i>	2254	With full set of resistance coils to 10,000 ohms (capacity of measure- ment 1,000,000 ohms) with galva- nometer.....150.00
<i>Michael</i>	2255	Same, without galvanometer.....100.00





No. 2261.

## Combination Bridge, Rheostat and Galvanometer.

### Improved Form with Revolving Galvanometer.

This instrument consists of a sensitive Detector Galvanometer and an improved form of Wheatstone Bridge, with Rheostat, all arranged in one case so as to form a complete and perfect portable apparatus for measuring resistance.

We manufacture two sizes: No. 1 measures from one-hundredth of an ohm to 111,000 ohms. It has on each arm bridge coils of 10 ohms, 100 ohms and 1,000 ohms. The Rheostat consists of three rows of ten coils each, the first rows being coils of one ohm each, designated "units," the second of ten ohms each, designated "tens," and the third of 100 ohms each, designated "hundreds."

The case is of polished mahogany, measuring  $8\frac{3}{4} \times 8\frac{3}{4} \times 5\frac{1}{2}$  inches.

Code Word.	List No.		List Price.
			Each.
<i>Midship</i>	2260	No. 1 Instrument.....	\$ 75.00
<i>Midst</i>	2261	No. 2 " .....	85.00

No. 2 measures from one hundredth of an ohm to 1,110,000 ohms. The construction is the same as No. 1, but there is an additional row of ten one thousand ohm coils in the Rheostat. The size of the same is  $8\frac{3}{4} \times 10 \times 5\frac{1}{2}$  inches.

The arrangement of coils is such that one plug only is used to each row, thus avoiding the multiplicity of bad connections on account of ill-fitting plugs, and making the reading as simple as possible. If, for instance, in balancing the bridge, it is required to put the plug of the "hundreds" row into "seven," of "tens" row into "five," and of units row into "three," instead of adding up the coils, one reads direct 753 ohms.



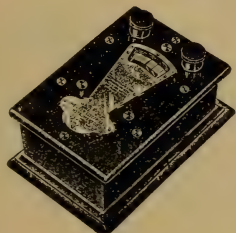
No. 23084.



No. 3680 with No. 3681.



No. 3446.



No. 9061.

## The Queen Decade Testing Set

Code Word.	List No.	Price List Each.
<i>Silverbush</i>	<b>23084</b> T 464, Queen "Decade" Portable Testing Set.....	<b>\$125.00</b>
<i>Silverbush</i>	<b>23085</b> T 465, Queen "Decade" Portable Testing Set, without Galvanometer and Battery	<b>100.00</b>

The above Testing Set is recommended to such electricians as prefer the "Decade" plan of resistance coils.

The Wheatstone Bridge, Rheostat, D'Arsonval Galvanometer and Battery are contained in a finely polished mahogany box with carrying strap. Outside dimensions, 12 x 6½ x 5¼ ins. Range .001 to 9,999,000 ohms.

## "Acme" Portable Testing Set.

The component parts are Wheatstone Bridge, Rheostat, D'Arsonval Galvanometer, Battery, and Double Contact Key, in a mahogany case, having outside dimension 9 x 5¼ x 5 ins., and weighing only seven pounds.

The bridge coils are six in number and admit of a ratio of one to one thousand on either arm.

The Rheostat has a total resistance of 11,110 ohms, hence the possible range of measurement is from .001 to 11,110,000 ohms.

Measurements can be made under all conditions of practical work close to dynamos, in large factories or on ship-board.

<i>Frances</i>	<b>3680</b>	T 460, "Acme" Portable Testing Set.....	<b>100.00</b>
<i>Francis</i>	<b>3681</b>	T 461, Leather Carrying Case, with shoulder strap.....	<b>5.00</b>
<i>Frederick</i>	<b>3682</b>	T 462, Flexible Contact Clutches for heavy conductors.....	<b>5.00</b>
<i>Detection</i>	<b>3700</b>	T 963, Tripod, with Clamp, to support in street work.....	<b>7.50</b>

## Weston Circuit Tester and Ground Detector.

The Weston Ground Detector is an instrument for simply and quickly indicating the existence of grounds, and also for showing the insulation resistance of the circuits from hour to hour and day to day, and thus indicating any changes that may take place in the insulation resistance of the circuits.

<i>Coolly</i>	<b>3446</b>	Weston Circuit Tester and Ground Detector, for two-wire circuits, including computing device for quickly determining the insulation resistance without necessity of calculation.....	<b>65.00</b>
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## Weston Portable Galvanometer.

<i>Negative</i>	<b>9061</b>	No. 1, giving 1 millimeter scale deflection with 1 volt through 500,000 ohms, resistance 250 ohms.....	<b>30.00</b>
<i>Negatively</i>	<b>9062</b>	No. 2, giving 1 millimeter scale deflection with 1 volt through 1,000,000 ohms, resistance 1,000 ohms.....	<b>35.00</b>
<i>Neglect</i>	<b>9063</b>	Leather Carrying Case for same, velvet lined, with handle and shoulder strap, lock and key.....	<b>3.50</b>

## Queen-Wirt Ammeters and Voltmeters.



Queen-Wirt Meters are calibrated for either direct or alternating current circuits. When ordering instruments for alternating current, state the product of the number of pole of the generator by the number of revolutions per minute.

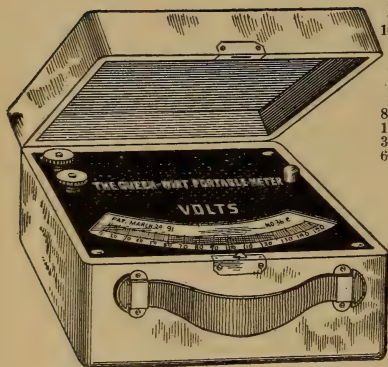
All instruments are Dead-Beat and this enables them to follow continual changes in the current or voltage without constant swinging. The circuit may be rapidly made or broken without driving the pointer violently to one side and probably injuring the instrument or throwing it out of calibration.

The front is of bronze with bright letters and scroll raised on a dead black ground.

Voltmeters for constant potential circuits have their scale divisions wider at the normal running point. Scales on other meters are nearly uniform.

Range.	Ammeters.	List Price Each.	
		Direct.	Alternating.
1 to 10 amperes.....		\$22.00	\$24.00
2 to 15 ".....		22.00	24.00
3 to 30 ".....		22.00	24.00
5 to 50 ".....		22.00	24.00
8 to 75 ".....		22.00	24.00
10 to 100 ".....		22.00	24.00
12 to 125 ".....		24.00	26.00
15 to 150 ".....		24.00	26.00
20 to 200 ".....		26.00	28.00
25 to 250 ".....		26.00	28.00
30 to 300 ".....		26.00	28.00
40 to 400 ".....		28.00	30.00
50 to 500 ".....		28.00	30.00
60 to 600 ".....		28.00	30.00
100 to 1000 ".....		28.00	30.00

Range.	Voltmeters.	List Price Each.	
		Direct.	Alternating.
2 to 15 volts.....		24.00	26.00
3 to 25 ".....		24.00	26.00
8 to 75 ".....		24.00	26.00
80 to 130 ".....		24.00	26.00
15 to 150 ".....		24.00	26.00
30 to 300 ".....		26.00	28.00
60 to 600 ".....		28.00	30.00



## Portable Instruments.

These instruments are light and small, weighing about three pounds each and measuring  $6\frac{1}{2} \times 6\frac{1}{2} \times 3$  inches over all. The cases are of mahogany. The instruments are dead-beat.

In ordering Portable Meters for alternate current circuits follow previous instructions given for switchboard meters.

Range.	Ammeters.	List Price Each.	
		Direct.	Alternating.
2 to 15 amperes.....		28.00	30.00
10 to 100 ".....		30.00	32.00
15 to 150 ".....		32.00	34.00

Range.	Voltmeters.	List Price Each.	
		Direct.	Alternating.
15 to 150 volts.....		30.00	32.00
30 to 300 ".....		32.00	34.00
60 to 600 ".....		35.00	37.00

Leather carrying case with shoulder-strap for Portable Voltmeter or Ammeter..... 5.00

The prices on double instruments are governed by the combination selected and will be furnished on application.

# Voltmeter Switches.

## Western Electric Switch.

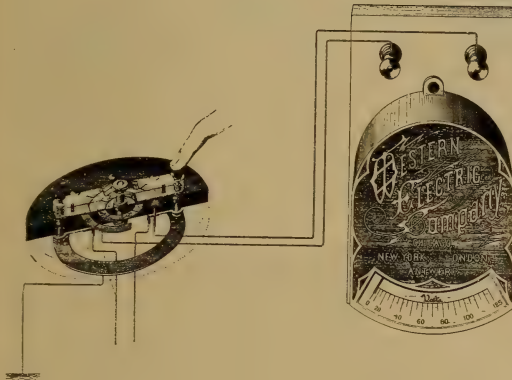


No. 8720.

This Switch is used for connecting a voltmeter across the mains of any number of dynamos or circuits without danger of reversing the polarity through the instrument. It is also provided with a ground test for each side of the different circuits, which measures with the voltmeter the number of volts lost to ground by simply pressing one of the buttons, from which reading the actual resistance in ohms to ground of the circuit may be determined. Switches of this design are made for any number of circuits or dynamos lettered and numbered as desired.

Code Word.	List No.	List Price
<i>Simious</i>	23098 4 Point, each...	\$13.00
<i>Simitar</i>	23099 6 " " "	14.50
<i>Simmer</i>	23100 8 " " "	16.00
<i>Simnel</i>	23101 10 " " "	18.00
<i>Simonine</i>	23102 12 " " "	20.00
<i>Simonist</i>	23103 14 " " "	24.00
<i>Julia</i>	8720 16 " " "	30.00

## Diagram of Connections for a Western Electric Voltmeter Switch.



The size of the hard rubber base for a 2-point Voltmeter Switch is 2 x 5 ins. For a 4 to 14-point the base is round and is 6 1/4 in. diameter. For a 16 to 24-point switch it is 10 1/4 in. diameter.

A similar instrument is also made for connecting polarity indicators, calibrating ammeters or other series instruments in arc circuits.

# Speed Indicators.

## The "Lightning" Speed Indicator.

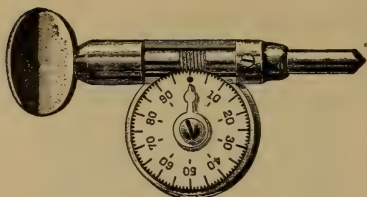


No. 3673.

It registers as high as 1,000, as seen by the cut. The body constitutes the handle. Has a rubber, tip on the spindle, and the face covered with a watch crystal. Will stand over 15,000 rotations per minute.

<i>Citron</i>	3673	Each.....	3.00
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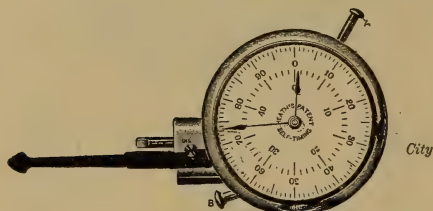


No. 3674.

## Speed Indicators—(Continued).

## Universal Speed Indicator.

Code Word.	List No.	List Price.
Citizen	3674	Single Indicator, each.....\$1.00



No. 2051.

## Heath Speed Indicator.

2051	Heath Self-Timing, Self-Registering Speed Indicator, each .....	20.00
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No 2050.

## Standard Portable Tachometer.

The scales on the dial are graduated as follows: 40 to 200, 120 to 600, and 600 to 3,000, which gives a maximum range of 40 to 3,000 turns per minute. Thus it is possible to measure directly both high and low speeds with the same instrument.







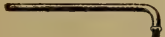





























Cited

2050	Standard Portable Tachometer, range 40 to 3 000 revolutions, each.....	60.00
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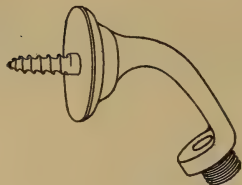


# FIXTURES.

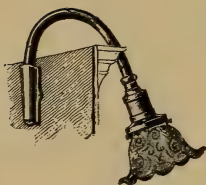
## Bracket Tubes.

		Code Word.	List No.	List Price. Per 100.
		<i>Shoe</i>	21895 4 inch .....	\$14.00
No. 21895.	No. 21899.	<i>Shower</i>	21896 6 " .....	16.00
		<i>Showery</i>	21897 8 " .....	20.00
No. 21900.	No. 21902.	<i>Shred</i>	21898 10 " .....	23.00
		<i>Shren</i>	21899 45 degree rigid, ball joint.....	17.00
No. 21903.	No. 21905.	<i>Shreded</i>	21900 6 inch .....	26.00
		<i>Shrick</i>	21901 10 " .....	33.00
No. 21906.	No. 21910.	<i>Shrill</i>	21902 Curve Nipple .....	10.00
		<i>Shrine</i>	21903 6 inch .....	36.00
No. 21914.	No. 21915.	<i>Shrink</i>	21904 10 " .....	43.00
		<i>Shrinkage</i>	21905 Extends 8 inches .....	35.00
No. 21916.	No. 21917.	<i>Shrinker</i>	21906 4 inches .....	14.00
		<i>Shrinkingly</i>	21907 6 " .....	16.00
No. 21918.	No. 21919.	<i>Shrite</i>	21908 8 " .....	20.00
		<i>Shricately</i>	21909 10 " .....	23.00
		<i>Shrive</i>	21910 4 inch .....	14.00
		<i>Shriek</i>	21911 6 " .....	16.00
		<i>Shrier</i>	21912 8 " .....	20.00
		<i>Shricing</i>	21913 10 " .....	23.00
		<i>Shroff</i>	21914 Extends 3 3/4 inches .....	30.00
		<i>Shroffage</i>	21915 90 degree Bracket.....	16.00
		<i>Shrood</i>	21916 Turkey-neck Bracket.....	35.00
		<i>Shroud</i>	21917 Snake Bracket.....	35.00
		<i>Shrouding</i>	21918 Swan Bracket.....	35.00
		<i>Shroudless</i>	21919 Duck-neck Bracket.....	35.00

Nos. 21899, 21902 and 21915 are of the same size tubing as the other brackets listed.



No. 21921.



No. 21922.



No. 21923.



No. 21924.

## Fixtures.—(Continued.)

### Electric Brackets.

#### Screw Bracket.

Code Word.	List No.	List Price.
<i>Shroudplate</i>	<b>21920</b>	Rough brass, per 100 ..... <b>\$11.00</b>
<i>Shroudy</i>	<b>21921</b>	Polished brass, lacquered, per 100 ..... <b>22.00</b>

This is a short screw bracket, very strong, makes a convenient bracket for window lighting, border or ceiling work. Extends from wall one and five-eighths inches.

#### Partition Bracket.

For attaching to back of partitions, etc., includes flange. The socket, shade and shade-holder are extra.

<i>Shrove</i>	<b>21922</b>	Partition Bracket, polished brass, each ..... <b>.70</b>
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#### Shelf Bracket.

With wall plate, has six inch drop to socket nozzle. The socket, shade and shade holder are extra.

<i>Shrovetide</i>	<b>21923</b>	Shelf Bracket, polished brass, each ..... <b>1.00</b>
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#### Special Shelf Bracket.

For attaching underneath a shelf, furnished with wall plate. Socket, shade and shade holder extra.

<i>Shroving</i>	<b>21924</b>	Special Shelf Bracket, polished brass, each .... <b>.60</b>
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No. 21928.



No. 21931.



No. 21932.



No. 21933.



No. 21934.



No. 21935.

## Fixtures.—(Continued.)

### Almond Flexible Bracket.

Including canopy and crowfoot only.

Code Word.	List No.		List Price. Each.
<i>Shrow</i>	21925	6 inches long .....	\$1.15
<i>Shrowd</i>	21926	9 " " .....	1.26
<i>Shrub</i>	21927	12 " " .....	1.50
<i>Shrubberg</i>	21928	15 " " .....	1.74
<i>Shrubiness</i>	21929	18 " " .....	2.08
<i>Shrubby</i>	21930	24 " " .....	2.70

### Electric Wall Brackets.

<i>Shrubless</i>	21931	1 light, with canopy and crowfoot .....	2.00
<i>Shruff</i>	21932	2 " " " " .....	3.00

Socket, shade and shade holder are extra.

### Switchboard Bracket.

Includes canopy and nuts for attaching. The socket, shade and shadeholder are extra.

<i>Shrug</i>	21933	1 light .....	4.25
<i>Shrunken</i>	21934	2 " .....	4.75

### Hall Bracket.

Including canopy and crowfoot. Socket, shade and shadeholder are extra.

<i>Shru</i>	21935	1 light bracket .....	1.50
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No. 21949.



No. 21950.

No. 21951.



No. 21952.



No. 21953.



No. 21954.



No. 21955.

## Fixtures—(Continued.)

### Ornamental Brackets.

#### Brass Brackets.

##### With Husks.

Code Word.	List No.	List Price. Each.
<i>Shunti</i>	21949 2 light, polished brass or rich gilt .....	\$18.00
<i>Shut</i>	21950 1 light, polished brass or rich gilt .....	7.00
<i>Shute</i>	21951 1 light, polished brass or rich gilt .....	10.00

#### Iron Brackets.

##### For Interior or Exterior Use.

<i>Shutter</i>	21952 1 light bracket, black iron finish, with flint opalescent ball.....	10.00
<i>Shuttered</i>	21953 1 light bracket, black iron finish, with flint opalescent ball.....	8.00
<i>Shuttle</i>	21954 1 light bracket, black iron finish, flint opalescent glass cylinder.....	27.00
<i>Shuttlebox</i>	21955 1 light bracket, black iron finish, flint opalescent glass stalactite .....	20.00

# Fixtures—(Continued.)

## Swing Brackets.

Shades, shade holders and sockets are not included in the price of the brackets. Canopy and crow foot are furnished with each bracket. Brackets are polished brass.



No. 21941.

Code Word.	List No.	List Price Each.
<i>Shuffleboard</i>	21941	1 light Electric Swing Bracket..... \$4.50



No. 21942.

<i>Shufflerap</i>	21942	1 light single swing, extends 12 inches... 1.20
<i>Shuffler</i>	21943	1 light double swing, extends 24 inches... 1.70



No. 21944.

<i>Shuffling</i>	21944	1 light single swing, extends 12 inches... 1.20
<i>Shug</i>	21945	1 light double swing, extends 24 inches... 2.40



No. 21946.

<i>Shunac</i>	21946	1 light Electric single swing bracket, extends 12 inches..... 1.50
<i>Shun</i>	21947	1 light Electric double swing bracket, extends 24 inches ..... 3.00



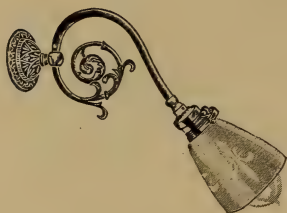
No. 21948.

## Two-Light Electric Bracket.

Two arms, single swing, spread 24 inches.

<i>Shunless</i>	21948	2 light Electric bracket..... 5.50
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No. 21936.

## Fixtures—(Continued.)

### Electric Brackets.

Sockets, shades and shadeholders are extra.

Code Word.	List No.	List Price. Each.
<i>Shuck</i>	<b>21936</b> 1 light Bracket with wall plate... Extends 10 inches.	<b>\$1.80</b>



No. 21937.

### Two-Light Wall Brackets.

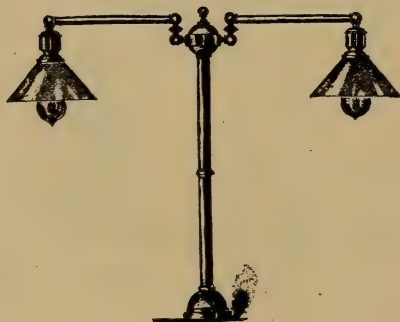
Including canopy and crowfoot.

<i>Shudder</i>	<b>21937</b> 2-light bracket, polished brass.....	<b>4.00</b>
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No. 21938.

<i>Shade</i>	<b>21938</b> 2-light bracket, polished brass.....	<b>3.00</b>
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No. 21940.

### Swing Standards.

Standards are furnished without shade, shadeholder or socket.

<i>Shuffle</i>	<b>21939</b> 1-light, single swing standard .....	<b>3.25</b>
<i>Shuff</i>	<b>21940</b> 2-light, " " " .....	<b>4.75</b>

The arms extend 12 inches.

This fixture is well adapted for banks and counting houses.

The Standards will be furnished wired for 25 cents extra for each arm.



No. 759.



No. 21960.

## Fixtures—(Continued.)

### Desk Portables.

Code Word.	List No.	List Price. Each.
<i>Fanny</i>	759 Extension Portable.....	\$4.00
	Height, 24 inches. Extension 12 inches.	

The arm can be moved up and down, in and out, and from side to side.



No. 21961.



No. 21962.

### Plain Standard Portable.

Brass finish. Height, 24 inches.

<i>Shyly</i>	21960 Portable, only, without shade.....	3.00
<i>Shyness</i>	21961 " " " ".....	3.00
<i>Syn</i>	21962 Portable, only.....	1.50

### Flexible Portable.

<i>Depth</i>	8689 With Brass Stand.....	3.00
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Attachment plugs, cord, shade and socket are extra.



No. 8689.



No. 21963.

### Adjustable Portable and Bracket.

Is furnished with a key switch at the base, and has an adjustable attachment at the top so that the socket may be moved from side to side.

<i>Si</i>	21963 Complete, as shown in cut.....	10.00
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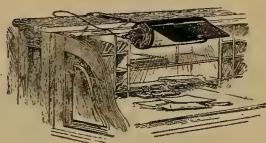


Stand Lamp.



Bracket.

No. 2371.



No. 2396.



No. 22045.



No. 21958.



No. 21959.

## Fixtures.—(Continued.)

### Combined Portable and Bracket.

This is an ornamental and convenient desk lamp. It is furnished complete with six feet of cotton covered lamp cord, a special Bryant attachment plug, a socket for a T.-H. or Westinghouse base lamp, and a paper or celluloid shade. The Portable is of polished brass and, including the lamp, stands about 13 inches high.

When used as a bracket it extends about 8 inches.

Code Word.	List No.	List Price. Each.
<i>Equatness</i>	2371	Polished Brass, complete..... \$5.00
<i>Equation</i>	2372	Old Copper, "..... 6.00
<i>Equinox</i>	2373	Oxidized Silver "..... 7.00
<i>Equity</i>	2374	Shade only, Green..... 1.00
<i>Equivalent</i>	2375	" Red..... 1.00
<i>Equivalent</i>	2376	" Blue..... 1.00
<i>Eradicate</i>	2377	" White..... 1.00
<i>Eradicated</i>	2378	" Yellow..... 1.00
<i>Eradicating</i>	2379	" Pink..... 1.00

### The Kinsman Desk Light.

This Desk Light is clamped on the desk as shown, without marring or interfering with the desk in any way; has an adjustable arm by which the cylinder can be pulled back or drawn forward as desired. The inner glass cylinder is so arranged that it will give a bright light, or by a slight touch it can be modified to suit.

<i>Errand</i>	2386	Each, complete, nickel-plated, with cord and attaching plug.....	6.00
<i>Side-sq</i>	22044	Each, complete, dark Green, enamel..	3.75

### Kinsman Portable.

<i>Side-man</i>	22045	Kinsman No. 1, Portable, nickel.....	8.00
<i>Side-table</i>	22046	" No. 1, " dark Green, enamel.....	5.00
<i>Side-taking</i>	22047	Kinsman No. 2, Portable, nickel.....	7.00

Polished brass can be furnished instead of nickel if specified.

Specify style of socket when ordering.

### Ornamental Electric Portables.

One light, finished in rich gilt or polished brass.

<i>Shuttlecase</i>	21958	Portable, without shade.....	6.70
<i>Shy</i>	21959	" with opal shade.....	17.00

Fixtures.—(Continued.)

Ornamental Ceiling Fixtures.

Husks.



No. 21964



No. 21965.

Code Word	List No.	List Price. Each.
<i>Sialogue</i>	21964 1 light, polished brass or rich gilt.....	\$3.50
<i>Siamese</i>	21965 1 " " " " .....	3.50



No. 21966.



No. 21967.

<i>Sib</i>	21966 1 light, polished brass .....	4.50
<i>Siberian</i>	21967 1 " " " .....	11.25



No. 21968.



No. 21969.

Ceiling Globes and Balls.

<i>Siberite</i>	21968 1 light, Black iron, Flint Opalescent Globe,	17.00
<i>Sibilance</i>	21969 1 " Polished brass, " " Ball,	6.00



No. 21970.



No. 21971.

<i>Sibilant</i>	21970 1 light, Polished Brass, Flint Opalescent Ball,	10.00
<i>Sibilation</i>	21971 1 " " " Inside Roughed Ball,	17.00







## Fixtures—(Continued.)

## W. E. Clusters.

These clusters, owing to their construction, are a handy and neat device. Fig. 2 is a detachable base, so that the cluster is open at both ends. The piece shown at the top of the cluster is made for a shade-holder, and will hold the shade firmly and rigidly to its proper place.

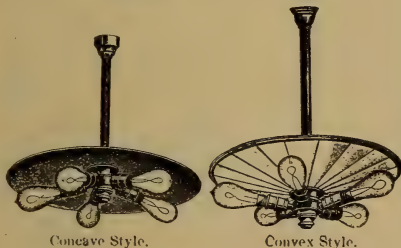
These clusters are furnished in polished brass. An additional charge of 20 cents will be made for Nickel or Baure Barf finish. The following prices are for the Cluster Balls only. Shades, pendants, canopies and crowfoots extra.

## Concave Style.

Code Wora.	List No.		List Price. Each.
<i>Sirkishly</i>	22001	3 light Cluster.....	\$1.12
<i>Sirkishness</i>	22002	4 " ".....	1.18
<i>Sirkle</i>	22003	5 " ".....	1.24
<i>Sirkled</i>	22004	6 " ".....	1.28
<i>Sirklemun</i>	22005	8 " ".....	1.40
<i>Sirkler</i>	22006	10 " ".....	1.80
<i>Sirkless</i>	22007	12 " ".....	2.70

## Convex Style.

<i>Sirkewort</i>	22008	3 light Cluster.....	1.35
<i>Sirkied</i>	22009	4 " ".....	1.40
<i>Sirkiness</i>	22010	5 " ".....	1.45
<i>Sirkist</i>	22011	6 " ".....	1.50
<i>Sirkly</i>	22012	8 " ".....	1.62



Concave Style.

Convex Style.



## Dale Detachable Ceiling Cluster with Switch.

Cluster Body is detachable, so that the porcelain reflector may be put up or removed without interfering with the wiring or taking down the fixture.

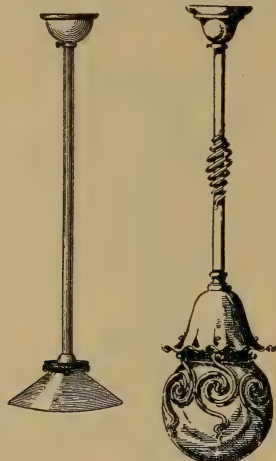
A switch is placed in the bottom of the cluster body to turn off and on the lights, thus avoiding running wires from the ceiling outlet to the side wall.

Wired complete, excepting shade and sockets.

- A Switch to turn off and on lights. E Holder for Reflector.  
 B Cluster Body. F Brass Stem.  
 C Connecting Plug. G Canopy covering Crowfoot.  
 D Receptacle for Plug C.



<i>Sickeringly</i>	21996	2 light	4.00
<i>Sicker</i>	21997	3 " "	4.40
<i>Sickerly</i>	21998	4 " "	4.80
<i>Sickerness</i>	21999	5 " "	5.20
<i>Sirkish</i>	22000	6 " "	5.60



No. 21989.

No. 21994.

## Fixtures.—(Continued.)

### Electric Pendants.

Plain straight Pendants made of polished brass, with crown foot and canopy, as per the following list:  
Sockets, shades and shade holder extra.

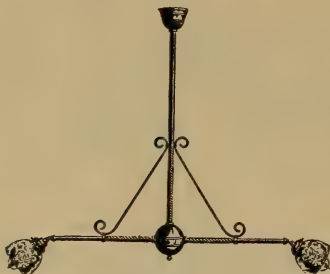
K. W. bracket cut-out, which can be used instead of canopy and crown foot will be furnished if specified.

Code Word.	List No.		List Price. Each.
<i>Sich</i>	21987	Pendant 1 foot long.....	\$ .60
<i>Sirilian</i>	21988	" 2 " .....	.90
<i>Sick</i>	21989	" 3 " .....	1.20
<i>Syn</i>	21990	" 4 " .....	1.50
<i>Sickboy</i>	21991	" 5 " .....	1.80
<i>Sickbed</i>	21992	" 6 " .....	2.10

### Ornamental Pendants.

Finished in black iron, and includes canopy, crown foot and flint opalescent ball. An extra charge is made for the socket.

<i>Sickberth</i>	21993	Pendant 2 feet long.....	30.00
<i>Sickbruined</i>	21994	" 3 " .....	31.00
<i>Sicken</i>	21995	" 4 " .....	32.00



No. 22013.

### Hall Fixtures, Plain.

Polished Brass. Crown foot and canopy furnished with fixture.

Shade, shadeholder and socket extra.

Code Word	List No.		List Price. Each.
<i>Sickness</i>	22013	2 light.....	\$5.60
<i>Sickroom</i>	22014	3 " .....	7.25
<i>Sicle</i>	22015	4 " .....	9.00



No. 22016.

### Bed Room Fixtures, Ornamental.

Polished brass, rich gilt, including canopy and crown foot.

Sockets, shades and shadeholders extra.

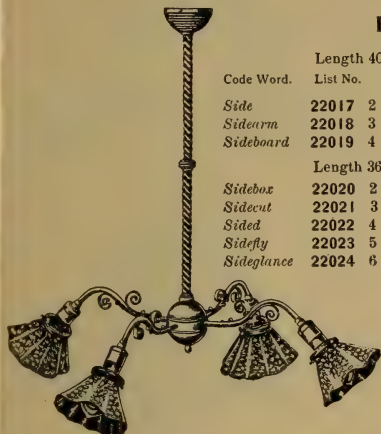
<i>Siddow</i>	22016	2 light.....	14.75
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Fixtures—(Continued.)

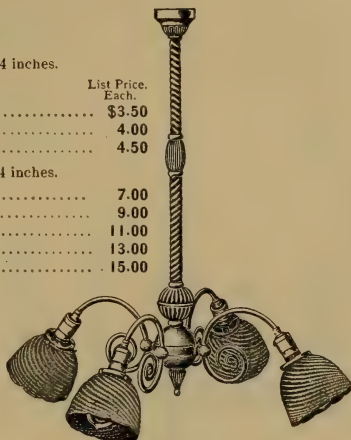
Electroliers.

Code Word.		List No.	Length 40 inches. Spread 24 inches.		List Price. Each.
<i>Side</i>	22017	2 light	.....		\$3.50
<i>Sidearm</i>	22018	3 "	.....		4.00
<i>Sideboard</i>	22019	4 "	.....		4.50

		List No.	Length 36 inches. Spread 24 inches.		List Price. Each.
<i>Sidebox</i>	22020	2 light	.....		7.00
<i>Sidecut</i>	22021	3 "	.....		9.00
<i>Sided</i>	22022	4 "	.....		11.00
<i>Sidefly</i>	22023	5 "	.....		13.00
<i>Sideglance</i>	22024	6 "	.....		15.00



No. 22019.

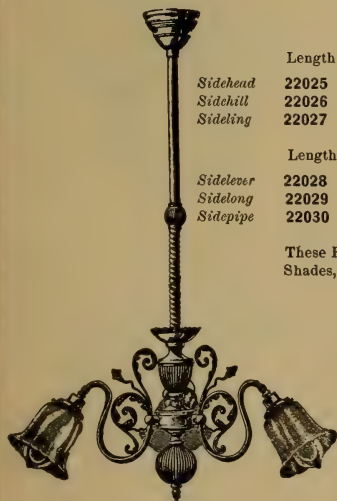


No. 22022.

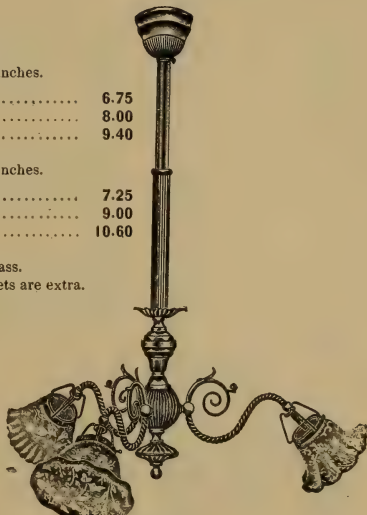
		List No.	Length 40 inches. Spread 24 inches.		List Price. Each.
<i>Sidehead</i>	22025	2 light	.....		6.75
<i>Sidehill</i>	22026	3 "	.....		8.00
<i>Sideling</i>	22027	4 "	.....		9.40

		List No.	Length 36 inches. Spread 24 inches.		List Price. Each.
<i>Sideloop</i>	22028	2 light	.....		7.25
<i>Sidelong</i>	22029	3 "	.....		9.00
<i>Sidetripe</i>	22030	4 "	.....		10.60

These Fixtures are polished brass.  
Shades, shadeholders and sockets are extra.



No. 22025.



No. 22029.

## Fixtures—(Continued.)

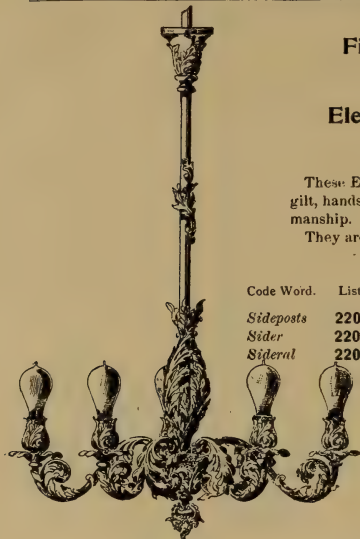
### Electroliers—(Continued.)

These Electroliers are of polished brass or rich gilt, handsome in design and of the finest workmanship.

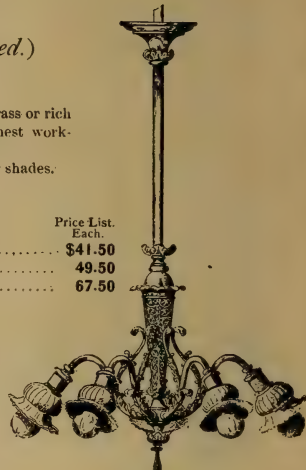
They are furnished without sockets or shades.

#### Electrolier, with Husks.

Code Word.	List No.	Price List. Each.
<i>Sideposts</i>	22031 3 light	\$41.50
<i>Sider</i>	22032 4 "	49.50
<i>Sideral</i>	22033 6 "	67.50



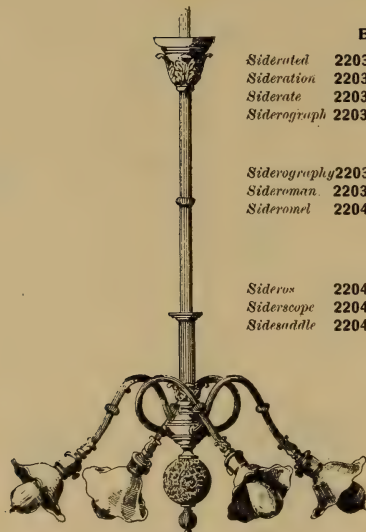
No. 22032.



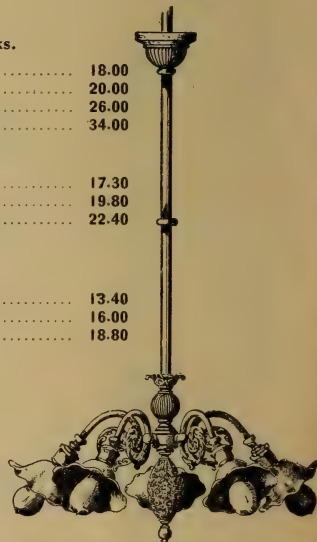
No. 22036.

#### Electroliers, without Husks.

<i>Siderated</i>	22034 2 light	18.00
<i>Sideration</i>	22035 3 "	20.00
<i>Siderate</i>	22036 4 "	26.00
<i>Siderograph</i>	22037 6 "	34.00
<i>Siderography</i>	22038 2 light	17.30
<i>Sideroman</i>	22039 3 "	19.80
<i>Sideronnel</i>	22040 4 "	22.40
<i>Siderus</i>	22041 2 light	13.40
<i>Siderscope</i>	22042 3 "	16.00
<i>Sidesnddle</i>	22043 4 "	18.80

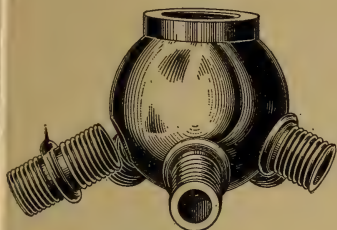


No. 22039.



No. 22043.

We are prepared to furnish other designs in Fixtures than those shown in this Catalogue.



No. 3491.

## Clusters.

### Cluster Balls.

Code Word.	List No.		List Price. Each.
<i>Alabaster</i>	3489	2 Light, each.....	.40
<i>Alacrity</i>	3490	3 " ".....	.50
<i>Alarm</i>	3491	4 " ".....	.60
<i>Ains</i>	3492	5 " ".....	.70
<i>Albion</i>	3493	6 " ".....	.80



No. 6790.

### Box Clusters.

<i>Erecting</i>	6786	Standard Box Cluster, Brass, 2 light, each...	1.00
<i>Ermine</i>	6787	" " " " 3 " ".....	1.10
<i>Erode</i>	6788	" " " " 4 " ".....	1.25
<i>Eroded</i>	6789	" " " " 5 " ".....	1.40
<i>Eroding</i>	6790	" " " " 6 " ".....	1.50
<i>Erosion</i>	6791	" " " " 8 " ".....	1.75



No. 23092.

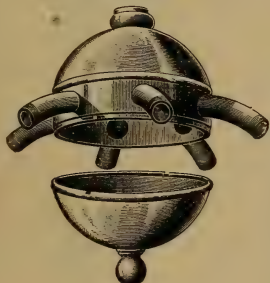
### Separable Box Clusters.

<i>Silbern</i>	23088	2 Light, each.....	.50
<i>Silvery</i>	23089	3 " ".....	.60
<i>Sima</i>	23090	4 " ".....	.70
<i>Sinagre</i>	23091	5 " ".....	.80
<i>Sinar</i>	23092	6 " ".....	.90
<i>Sinure</i>	23093	8 " ".....	1.00

### Separable Ball Cluster.

Diameter, 3 inches.

Bottom ornament is removable, and may be replaced by a nipple, so that another light may be added. We furnish an extra nipple for this purpose.



No. 617.

<i>Landlord</i>	613	2 Light, each.....	1.25
<i>Landman</i>	614	3 " ".....	1.35
<i>Landmark</i>	615	4 " ".....	1.55
<i>Landroll</i>	616	5 " ".....	1.85
<i>Landscape</i>	617	6 " ".....	2.00
<i>Landslide</i>	618	7 " ".....	2.35
<i>Landman</i>	619	8 " ".....	2.55
<i>Landspring</i>	620	9 " ".....	2.85
<i>Landward</i>	621	10 " ".....	3.25
<i>Lane</i>	622	11 " ".....	3.65
<i>Langwinn</i>	623	12 " ".....	3.90
<i>Languid</i>	624	14 " ".....	4.75
<i>Languidly</i>	625	16 " ".....	6.55



## Cluster Fixture Complete.

Prices given are for stem up to 12 inches in length.  
Prices for extra lengthening, 40 cents per foot list.



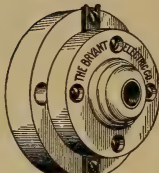
No. 604.

Code Word.	List No.		Price List Each.
<i>Lugger</i>	600	2 Light, each.....	\$2.50
<i>Lugtung</i>	601	3 " ".....	2.60
<i>Luir</i>	602	4 " ".....	2.80
<i>Luity</i>	603	5 " ".....	3.10
<i>Lumb</i>	604	6 " ".....	3.25
<i>Lumbkin</i>	605	7 " ".....	3.60
<i>Lumblike</i>	606	8 " ".....	3.80
<i>Lument</i>	607	9 " ".....	4.10
<i>Lumentable</i>	608	10 " ".....	4.50
<i>Lumentably</i>	609	11 " ".....	4.90
<i>Lumentation</i>	610	12 " ".....	5.25
<i>Lumented</i>	611	14 " ".....	6.10
<i>Lumenting</i>	612	16 " ".....	7.90

Bottom ornament on cluster is detachable. We furnish with each fixture a brass nipple to take the place of the ornament, so that another light may be added on the bottom.



No. 873.

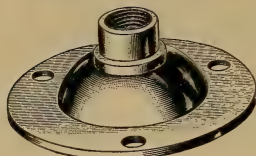


No. 23094.

## The K. W. Bracket Cut-Outs, Porcelain.

The most complete and only wall bracket containing fusible cut-out.

*Erratic* 873 Porcelain, with polished brass face, each. .40



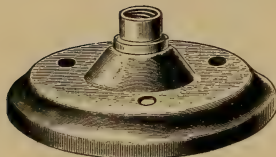
No. 2382.

## Type B, K. W. Bracket Cut-Out

We furnish this with any style base, for concealed, cleat or moulding work.

*Vagraney* 23094 Type "B" Bracket Cut-Out, with flush brass nipple..... .25

Adapted for use with any standard bracket made from  $\frac{3}{8}$  in. brass tubing.



No. 2380.

## Wall Plates or Electric Bracket Backs.

Also made with Male Thread for Direct Attachment to Socket.

<i>Eravement</i>	2382	2 inch, Female Thread, each.....	.65
<i>Eraving</i>	2383	2 " Male " ".....	.65
<i>Erasure</i>	2384	2½ " Female " ".....	.75
<i>Erect</i>	2385	2½ " Male " ".....	.75
<i>Erase</i>	2380	3 " Female " ".....	.50
<i>Erased</i>	2381	3 " Male " ".....	.50

## Turned Brass Fittings.

Polished and Lacquered.



No. 23135.

## Nipple. (Brass Tubing Size.)

Code Word.	List No.	List Price Per 100.
<i>Sinared</i>	23135 $\frac{3}{8}$ x $\frac{3}{8}$	\$ 4.00



No. 23136.

## Secret Nozzle.

<i>Sinestrong</i>	23136 $\frac{3}{8}$ brass to burner size	15.00
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No. 23137.

## Acorn Cap. (Iron Pipe Sizes.)

<i>Sinney</i>	23137 $\frac{1}{2}$ inch	15.00
<i>Sinful</i>	23138 $\frac{3}{4}$ "	15.00
<i>Sing</i>	23139 1" "	15.00



No. 23140.

## Straight Nozzle. (Brass Tubing Sizes.)

<i>Singr</i>	23140 $\frac{3}{8}$ x $\frac{3}{8}$	6.00
<i>Singer</i>	23141 $\frac{1}{2}$ x $\frac{3}{8}$	10.00
<i>Singlr</i>	23142 $\frac{3}{4}$ x $\frac{3}{8}$	10.00
<i>Singlin</i>	23143 1" x $\frac{3}{8}$	12.50



No. 23144.

## Elbow Nozzle. (Brass Tubing Sizes.)

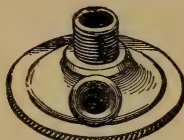
<i>Singlr</i>	23144 $\frac{3}{8}$ x $\frac{3}{8}$	12.50
<i>Singly</i>	23145 $\frac{1}{2}$ x $\frac{3}{8}$	12.50
<i>Singsong</i>	23146 $\frac{3}{4}$ x $\frac{3}{8}$	12.50



No. 23147.

## Brass Bushing. (Iron Pipe Sizes.)

<i>Singstar</i>	23147 $\frac{1}{4}$ x $\frac{1}{4}$	5.00
<i>Singular</i>	23148 $\frac{3}{8}$ x $\frac{1}{4}$	6.50
<i>Singult</i>	23149 $\frac{1}{2}$ x $\frac{3}{8}$	8.70
<i>Sinicol</i>	23150 $\frac{3}{4}$ x $\frac{1}{2}$	15.65
<i>Sinister</i>	23151 1 x $\frac{3}{4}$	24.35



No. 8882.

## Kerosene Lamp Attachment.

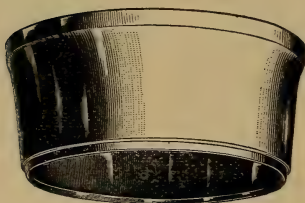
Code Word.	List No.	List Price.
<i>Erected</i>	8882 Plain, each.....	\$0.70
<i>Eminence</i>	8883 Insulated, each.....	.70



Split Canopy

## Canopies.

We carry in stock a large variety of Fixture Canopies, finished in polished brass. Other finishes will be furnished when specified.



No. 23095.

## Split Canopies.

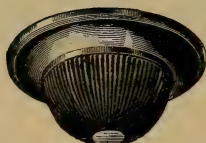
Canopies of any style illustrated in this catalogue will be furnished split, at double the printed list prices, subject to regular discounts.

## Extension Ring.

For Canopies 4 inches in diameter.

<i>Simblat</i>	23095	1 inch deep .....	.30
<i>Simin</i>	23096	1 1/4 " .....	.35
<i>Simile</i>	23097	2 " .....	.40

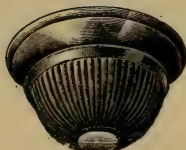
Extension rings of greater depth or for canopies larger in diameter made to order.



No. 9388.

## Canopies.

<i>Nemexis</i>	9388	3/8 inch, Ring and Set Screw, each .....	.24
<i>Nerte</i>	9293	3/8 " " " " .....	.24
<i>Nerreless</i>	9389	7/8 " " " " .....	.26
<i>Nercine</i>	9391	1 " " " " .....	.26



No. 9386.

<i>Nercous</i>	9386	5/8 inch, Ring and Set Screw, each .....	.24
<i>Nercously</i>	9107	3/4 " " " " .....	.24
<i>Nest</i>	9328	7/8 " " " " .....	.26
<i>Nestle</i>	9387	1 " " " " .....	.26

Polished and Lacquered, 50 per cent. extra.



No. 9392.

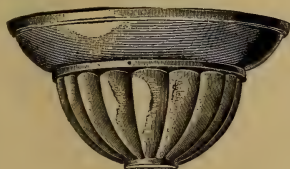
Canopies—(Continued).

Code Word.	List No.	List Price.
<i>Netting</i>	9392 $\frac{3}{8}$ inch, Ring and Set Screw, each.....	\$0.24
<i>Nettle</i>	9393 $\frac{1}{2}$ " " " " .....	.24
<i>Neural</i>	9394 $\frac{7}{8}$ " " " " .....	.26
<i>Neuralgia</i>	9395 1 " " " " .....	.26



No. 9290.

<i>Neuter</i>	9290 $\frac{3}{8}$ inch, Ring and Set Screw, each.....	.28
<i>Neutral</i>	9634 $\frac{1}{2}$ " " " " .....	.28
<i>Neutralize</i>	9683 $\frac{7}{8}$ " " " " .....	.30
<i>Neut</i>	9383 1 " " " " .....	.30



No. 9568.

<i>Next</i>	9568 $\frac{3}{8}$ inch, Ring and Set Screw, each.....	.24
<i>Nibble</i>	9569 $\frac{1}{2}$ " " " " .....	.24
<i>Nibbler</i>	9570 $\frac{7}{8}$ " " " " .....	.26
<i>Nice</i>	9571 1 " " " " .....	.26



No. 9590.

<i>Nicely</i>	9530 $\frac{3}{8}$ inch, Ring and Set Screw, each.....	.26
<i>Nicety</i>	9531 $\frac{1}{2}$ " " " " .....	.26
<i>Niche</i>	9532 $\frac{7}{8}$ " " " " .....	.28
<i>Nick</i>	9533 1 " " " " .....	.28

Polished and Lacquered, 50% extra.



No. 9537.

## Canopies—(Continued)

Code Word.	List No.		List Price.
<i>Nickel</i>	9537	$\frac{5}{8}$ inch, Ring and Set Screw, each .....	\$0.28
<i>Nicknacks</i>	9538	$\frac{3}{4}$ " " " " .....	.28
<i>Nickname</i>	9539	$\frac{7}{8}$ " " " " .....	.30
<i>Nictate</i>	9540	1 " " " " .....	.30



No. 9542.

<i>Nictitate</i>	9542	$\frac{3}{4}$ inch, Ring and Set Screw, each .....	.30
<i>Nictation</i>	9543	$\frac{1}{2}$ " " " " .....	.30
<i>Nictitation</i>	9544	$\frac{7}{8}$ " " " " .....	.32
<i>Nidification</i>	9545	1 " " " " .....	.32



No. 9547.

<i>Niece</i>	9547	$\frac{3}{4}$ inch, Ring and Set Screw, each .....	.32
<i>Niggard</i>	9548	$\frac{1}{2}$ " " " " .....	.32
<i>Niggardly</i>	9549	$\frac{7}{8}$ " " " " .....	.34
<i>Nigh</i>	9550	1 " " " " .....	.34

Polished and Lacquered, 50% extra.

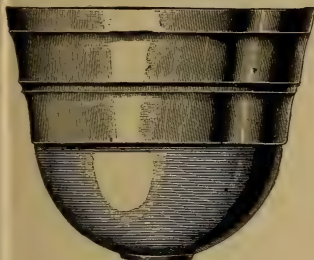




No. 9557.

Canopies—(Continued).

Code Word.	List No.		List Price.
<i>Nighness</i>	9557	$\frac{3}{4}$ inch, Ring and Set Screw, each.....	\$0.42
<i>Night</i>	9558	$\frac{3}{4}$ " " " " .....	.42
<i>Nightcap</i>	9559	$\frac{1}{2}$ " " " " .....	.44
<i>Nightfall</i>	9560	1 " " " " .....	.44



No. 9552.

<i>Nighthawk</i>	9552	$\frac{3}{4}$ inch, Ring and Set Screw, each.....	.38
<i>Nightingale</i>	9553	$\frac{3}{4}$ " " " " .....	.38
<i>Nightly</i>	9554	$\frac{3}{4}$ " " " " .....	.40
<i>Nightmare</i>	9555	1 " " " " .....	.40

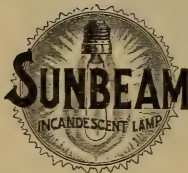


No. 9562.

<i>Nightshade</i>	9562	$\frac{3}{4}$ inch, Ring and Set Screw, each.....	.46
<i>Nightwatch</i>	9563	$\frac{3}{4}$ " " " " .....	.46
<i>Nihilist</i>	9564	$\frac{3}{4}$ " " " " .....	.48
<i>Nimble</i>	9565	1 " " " " .....	.48

Polished, and Lacquered, 50% extra.

## Sunbeam Incandescent Lamps.



Hair Pin Filament.



Coiled Filament.

We are the exclusive agents for the Sunbeam Incandescent Lamp. This lamp was selected by us after very careful investigation on account of its high quality. The Sunbeam Lamp was first made in 1889, and during that whole period has had a most excellent reputation. It is a low-priced lamp if one is not blind to the question of quality. No better lamp can be purchased at the same price.

The frosted lamps have a smooth, satin finish.

The superficially colored (dipped) lamps can hardly be distinguished from the natural colored glass, and for most purposes are quite equal to them.

Particular attention is called to the 2 and 4 C. P. lamps for sign and decorative work, and which are also useful in residence lighting on account of the small amount of energy consumed. These lamps can be connected in multiple on the regular lighting circuits.

Special prices will be quoted according to quantity.

### Pear Shape, Hair Pin Filament.

Furnished regularly for voltages from 45 to 90. Will be furnished for any voltage from 90 to 130 when specified.

Code Word.	List No.		Price List. Each.
<i>Sidewind</i>	22048	6 c. p., 25 watts	\$ 0.45
<i>Sidewind</i>	22049	8 " 32 "	.40
<i>Sidewind</i>	22050	10 " 37 "	.40
<i>Sidewind</i>	22051	16 " 56 " (long life)	.40
<i>Sidewind</i>	22052	16 " 50 " (high efficiency)	.40
<i>Sidewind</i>	22053	16 " 62 " (very long life)	.40
<i>Sidewind</i>	22054	20 " 62 "	.40
<i>Sidewind</i>	22055	25 " 75 "	.45
<i>Sidewind</i>	22056	32 " 92 "	.60
<i>Sidewind</i>	22057	50 " 145 "	1.00

Furnished in clear glass, frosted, opal, all natural colored glass and superficially colored.

NOTE.—Specify the base and voltage.

### Pear Shape, Coiled Filament.

Furnished for any voltage from 90 to 120.

<i>Sienna</i>	22058	8 c. p., 32 watts	.40
<i>Sienna</i>	22059	10 " 37 "	.40
<i>Sierra</i>	22060	16 " 56 " (long life)	.40
<i>Sierra</i>	22061	16 " 50 " (high efficiency)	.40
<i>Sierra</i>	22062	16 " 62 " (very long life)	.40
<i>Sierra</i>	22063	20 " 62 "	.40
<i>Sierra</i>	22064	25 " 75 "	.45
<i>Sierra</i>	22065	32 " 92 "	.60

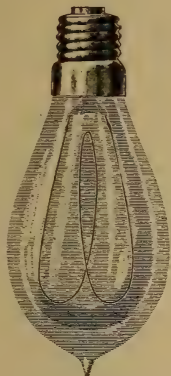
Furnished in clear glass, frosted, opal, all natural colored glass and superficially colored.

NOTE.—Specify the base and voltage.

## Incandescent Lamps--(Continued.)

## High Voltage Lamp.

Voltage 200 to 250.



High Voltage Lamp

Code Word.	List No.	List Price Each.
<i>Sig</i>	<b>22066</b> 16 c. p., 56 watts.....	<b>\$0.50</b>
	Furnished in clear glass, frosted and superficially colored.	
	Specify base and voltage.	

## Electric Street Railway Lamp.

Has a tough filament and will stand a variation in voltage from 105 to 120. Will have a long life and excellent maintenance of candle power throughout its entire life. Electric cars will be found better lighted with this lamp than where others are used.



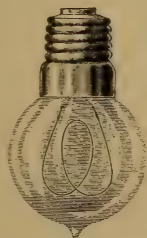
Electric Street Railway Lamp.

<i>Signaltion</i>	<b>22067</b> 16 c. p. ....	<b>.40</b>
	Furnished in clear glass, frosted, opal, all natural colored glass and superficially colored.	
	Specify base and voltage.	

## Decorative Lamp, Coiled Filament.

This lamp is offered for use in those places where a strong light is not required. The principal use for this lamp is in sign and decorative lighting; also in residence lighting.

The bases fit the standard sockets and the lamps are to be connected in multiple. The saving in energy over the lamp ordinarily used in sign work will amount to several times the cost of the lamp. For example: the saving in energy during its life of a 4 c. p. lamp over a 16 c. p. lamp will amount to \$2.00 or more.



Decorative Lamp.

<i>Sigh</i>	<b>22068</b> 2 c. p., 10 watts, voltage from 50 to 60.....	<b>.60</b>
<i>Sighborn</i>	<b>22069</b> 4 " 20 " " " 50 to 120.....	<b>.55</b>
<i>Sigher</i>	<b>22070</b> 10 " 37 " " " 50 to 120.....	<b>.50</b>
<i>Sighingly</i>	<b>22071</b> 16 " 56 " " " 50 to 120.....	<b>.50</b>

Furnished in clear glass, frosted and superficially colored.

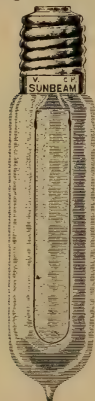
Specify base and voltage.



French Etched Lamp.



Engraved Lamp.



Candle Lamp.

## Incandescent Lamps—(Continued.)

### Fancy Lamps, French Etched.

For residences, clubs, hotels and such other places where handsome fixtures are used. Many of the shades now used with incandescent lamps will exclude from 30 to 50 per cent. of the light. These etched globes will pass all but 5 per cent. of the light. The French etched lamp is artistic, surpassing in beauty anything heretofore produced.

We have ten different designs.

Add to the list price of regular lamps, 30 cents each.

### Fancy Lamps, Engraved.

For residences, show windows, and other places where it is desired to have something more fancy than the plain lamp, our engraved lamps find favor.

We have ten different designs.

Add to the list price of regular lamps 15 cents each.

It is important that the style of base should be specified and the voltage given.

## Candle Lamps.

Furnished in any voltage from 48 to 120.

Furnished in clear glass, frosted, opal and superficially colored.

Code Word.	List No.	List Price. Each
<i>Sight</i>	22072 10 c. p., 37 watts.....	.60
<i>Sighted</i>	22073 16 " 56 " .....	.60

Specify the base and voltage.

## Incandescent Lamps—(*Continued.*)

### Porcelain Base for T. H. Lamps.

One of the recent developments in Incandescent Lamps is a base made entirely from porcelain, as shown by the illustration. It is artistic in finish, reasonable in price, and of high insulation.

On fine fixtures it adds greatly to the general effect, and always presents a neat appearance, as it can be cleaned whenever the lamp itself is polished.

An advantage claimed for a base of this description is that no metal extends beyond the edge of the socket, and consequently there is no danger of accidental contact with the lamp base. This is of importance where lamps are used in damp places as moisture may make a contact between the outer shell of the socket and the lamp base, thus causing a slight ground on the line.

This porcelain base is specially adapted for marine work, breweries, stock yards, refrigerators, basements, mines, or any other place where considerable moisture exists or gases and acid fumes of an injurious nature prevail. Moisture and gas attack metal and cause it to corrode, and in consequence in time to deteriorate. A hard, vitreous glazed porcelain, such as these bases are made of, is much less liable to the action of the atmosphere and noxious gases and does not cause any leak of current due to the accumulation of moisture.

The high degree of insulation makes it very desirable for out of door work, for 220 volt systems and street railway work.

**These Bases are made for T. H. Base Lamps only.**

Our standard lamps are all supplied with regular metal bases, as illustrated on other pages of this catalogue.

The Porcelain Base is furnished only when specified in the order.

We do not sell the Bases separately but only on the lamp.

Prices quoted upon application for lamps of standard sizes with porcelain bases.







Edison.



Thomson-Houston.



Sawyer-Man.



Brush-Swan.



Perkins.



English-Swan.



United States.



Hawkeye.



Schaefer.

## Incandescent Lamps—(Continued.)

### Bases.

Lamps are furnished with bases suitable for all sockets, as shown below:

### Packages.

All lamps furnished in standard packages containing the following quantities: 12, 25, 50, 100, 150, 200, 250. A full barrel will contain 250 16 c. p.; 200 25 c. p.; 175 42 c. p.

Packages will be charged at cost, or as follows: 25 lamps or less, one box, 15c.

Over 25 to 50 lamps, two boxes, 30c.

More than 50 lamps put in barrels are charged at 35c. for each barrel.

Lamps in heavy pasteboard box, without the separating partitions, no charge for package; shipments in this shape must be entirely at customer's risk of breakage.

The weights, including packages, of lamps from 6 to 20 c. p., are approximately as follows: 50 lamps, 28 lbs.; 100 lamps, 42 lbs.; 200 lamps, 55 lbs.; 250 lamps, 60 lbs.

## Miniature Incandescent Lamps.



The range of our Lamps is: From  $\frac{1}{8}$  to 8 candle power, from 1 to 3 watts per c. p., from 2 to 60 volts, from .07 to 2.0 amperes.

They can be lit in series or in multiple, from batteries or on dynamo circuits. Following is an abridged table of c. p. voltage and current of our Lamps:

$\frac{1}{2}$ c. p.	2 volts, 1.5 amp.	1 c. p.	4 volts, .7 amp.	3 c. p.	6 volts, 1.2 amp.
3	.8 "	6	.4 "	4 c. p.	8 " 1.0 "
4	.5 "	8	.25 "	15	.4 "
6	.3 "	10	.2 "	20	.25 "
8	.2 "	2 c. p.	4 " 1.5 "	6 c. p.	10 " .8 "
10	.1 "	6	.8 "	25	.4 "
20	.07 "	8	.5 "	8 c. p.	40 " .4 "
1 c. p.	3 " 1.0 "	10	.3 "	60	.25 "
		20	.1 "		

## Miniature Incandescent Lamps—(Continued.)

## Battery Lamps.

Code Word.	List No.		List Price Each.
<i>Sightful</i>	22074	½ c. p., with platinum loop terminals.	\$ 0.75
<i>Sightfulness</i>	22075	1 " " "	.75
<i>Sightless</i>	22076	2 " " "	.75
<i>Sightlessly</i>	22077	3 " " "	.75
<i>Sightly</i>	22078	4 " " "	.75
<i>Sightseeing</i>	22079	6 " " "	.75
<i>Sightseer</i>	22080	½ " without platinum loop terminals	.70
<i>Sightshop</i>	22081	1 " " "	.70
<i>Sightsmen</i>	22082	2 " " "	.70
<i>Sigel</i>	22083	½ " pear-lamp.	.85
<i>Sigillatice</i>	22084	1 " " "	.85
<i>Sigla</i>	22085	2 " " "	.85
<i>Sigma</i>	22086	½ " grain lamp.	1.00
<i>Sigmoid</i>	22087	1 " " "	1.00
<i>Sigmoidal</i>	22088	½ " pearl lamp.	1.25

Mounting on Screw Bases, 10 cents extra.

NOTE.—All our large sizes of Lamps of every kind, when not mounted on screw bases, are provided with platinum loop terminals, to which copper wires are fused on. This effectively prevents breaking off of wires.

## Special Series Lamps.

Mounted on either Edison, T.-H., or Sawyer-Man Standard Bases.

6 to 8 c. p. 20 to 30 volts.

<i>Sigmoidally</i>	22089	Accumulator Lamp, mounted	1.00
<i>Sigmoiding</i>	22090	Spherical Lamp	1.00

Specify candle power when ordering Nos. 22089 and 22090.

Mounted on Candelabra and Miniature Bases.

½ to 8 c. p.

<i>Sign</i>	22091	½ to 4 c. p., 2 to 20 volts	.80
<i>Signal</i>	22092	4 c. p., 20 volts	.80
<i>Signalfire</i>	22093	4 " 30 "	.80
<i>Signalist</i>	22094	6 " 30 "	.80
<i>Signality</i>	22095	8 " 40 "	.80
<i>Signally</i>	22096	9 " 60 "	.80

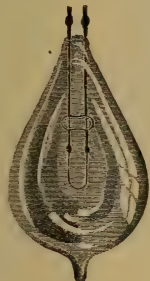
Specify candle power and voltage when ordering No. 22091.

With Coiled Carbons.

<i>Signalment</i>	22097	4 to 8 c. p., 15 to 60 volts	.85
<i>Signalion</i>	22098	Kinetoscope 20 volt lamp	1.00
<i>Signatory</i>	22099	Stereopticon Lamp, 20 volts, 20 c. p.	1.25

Specify candle power and voltage when ordering Nos. 22097, 22098 and 22099.

Mounting on Screw Bases, 10 cents extra.



## Miniature Incandescent Lamps—(Continued.)



No. 23004.



No. 23006.



No. 23020.



No. 23014.



No. 23025.



No. 23030.

### Candle Lamps.

#### For Decorative Lighting.

Code Word.	List No.		List Price. Each.
<i>Signatory</i>	23000	2 c. p., 10 volts, without screw base.....	\$ .70
<i>Signature</i>	23001	3 " 10 " " " " ".....	.80
<i>Signaturist</i>	23002	4 " 20 " " " " ".....	.70
<i>Signboard</i>	23003	5 " 30 " " " " ".....	.70
<i>Signer</i>	23004	6 " 50 " " " " ".....	.70
<i>Signet</i>	23005	8 " 60 " " " " ".....	.70
<i>Signeted</i>	23006	2 " 10 " " " " ".....	.70
<i>Signetring</i>	23007	3 " 10 " " " " ".....	.80
<i>Signifer</i>	23008	4 " 20 " " " " ".....	.70
<i>Significance</i>	28009	5 " 30 " " " " ".....	.70
<i>Significancy</i>	23010	6 " 50 " " " " ".....	.70
<i>Significant</i>	28011	8 " 60 " " " " ".....	.70

Any other voltage furnished to suit requirements.

Mounting on Screw Bases, 10 cents extra.

### Candle Flame Lamps.

<i>Significantly</i>	23012	2 c. p., 10 volts, without screw base.....	.70
<i>Significate</i>	23013	3 " 10 " " " " ".....	.70
<i>Signification</i>	23014	4 " 20 " " " " ".....	.70
<i>Significative</i>	23015	5 " 30 " " " " ".....	.70
<i>Significator</i>	23016	6 " 50 " " " " ".....	.70
<i>Significavit</i>	23017	8 " 60 " " " " ".....	.70

### Ellipse Lamps.

<i>Signify</i>	23018	2 c. p., 10 volts, without screw base.....	.70
<i>Signior</i>	23019	3 " 10 " " " " ".....	.70
<i>Signiorize</i>	23020	4 " 20 " " " " ".....	.70
<i>Signiorship</i>	23021	5 " 30 " " " " ".....	.70
<i>Signiory</i>	23022	6 " 50 " " " " ".....	.70
<i>Signimanol</i>	23023	8 " 60 " " " " " double carbon lamp.....	1.50

Any other voltage furnished to meet requirements.

Mounting on Screw Bases 10 cents extra.

### Bend Flame Lamps.

<i>Signor</i>	23024	2 c. p., 10 volts, without screw base.....	.90
<i>Signpost</i>	23025	3 " 10 " " " " ".....	.90
<i>Sike</i>	23026	4 " 20 " " " " ".....	.90
<i>Siker</i>	23027	5 " 30 " " " " ".....	.90
<i>Sikerness</i>	23028	6 " 50 " " " " ".....	.90
<i>Sikhs</i>	23029	8 " 60 " " " " ".....	.90

### Straight Flame Lamps.

<i>Sile</i>	23030	2 c. p., 10 volts, without screw base.....	.80
<i>Silence</i>	23031	3 " 10 " " " " ".....	.80
<i>Silene</i>	23032	4 " 20 " " " " ".....	.80
<i>Silent</i>	23033	5 " 30 " " " " ".....	.80
<i>Silentiary</i>	23034	6 " 50 " " " " ".....	.80
<i>Silently</i>	23035	8 " 60 " " " " ".....	.80

Other voltages furnished when specified.

Mounting on Screw Bases, as shown in cut, 10 cents extra.

# Miniature Incandescent Lamps—(Continued.)

## Prism Lamps.

Style No. 23037 is made in sizes ranging from 2 to 8 c. p., and 20 to 60 volts.

When ordering specify candle power and voltage.

Code Word.	List No.	Price List. Each.
<i>Silentness</i>	23036 Not mounted.....	\$0.90
<i>Silesia</i>	23037 Mounted.....	1.00

Style No. 23038 is broader and shorter than Style No. 23037. Can be made from ½ to 8 c. p., 2 to 60 volts. Coiled carbon taking the place of straight one for the higher pressures.

Specify candle power and voltage when ordering.

<i>Silesion</i>	23038. Not mounted.....	.90
<i>Siler</i>	23039 Mounted.....	1.00

## Lance Tip Lamps.

Voltage same as that of Battery Lamps.

Made in sizes from ½ to 8 candle power.

Specify candle power and voltage when ordering.

<i>Silhouette</i>	23040 Not mounted.....	.70
<i>Silion</i>	23041 Mounted.....	.80

## Corrugated Cylinder Lamps.

From ½ to 8 candle power. 2 to 40 volts.

Specify candle power and voltage when ordering.

<i>Silicite</i>	23042 Mounted on screw base.....	1.00
<i>Silicoid</i>	23043 Not mounted.....	.90

## Corrugated Cone Lamps.

From ½ to 8 candle power. The voltage the same as any other series or battery lamps as required.

Specify candle power and voltage when ordering.

<i>Silice</i>	23044 Mounted on screw base.....	1.00
<i>Silicous</i>	23045 Not mounted.....	.90
<i>Silicious</i>	23046 With straight stem.....	1.00

## Miniature Incandescent Lamps—(Continued.)

### Corrugated Cone Lamps—(Continued.)

From  $\frac{1}{2}$  to 8 candle power. Voltage the same as any other series or battery lamps as required.

Specify candle power and voltage when ordering.



No. 23049.



No. 23047.



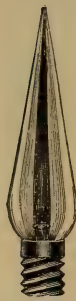
No. 23051.

Code Word.	List No.	List Price. Each.
<i>Silicio</i>	23047 Plain platinum wire terminal.....	\$ .90
<i>Silicify</i>	23048 Loop terminals.....	.90
<i>Silicite</i>	23049 With hooked stem.....	1.00

### Corrugated Sphere Lamps.

$\frac{1}{2}$  to 8 candle power. 2 to 40 volts.

Specify candle power and voltage when ordering.



No. 23052A.



No. 23052B.



No. 23056C.



No. 23056D.



No. 23057.

<i>Silicited</i>	23050 Mounted on screw base.....	1.00
<i>Silicle</i>	23051 Not mounted.....	.90

### Tricolor Lamps.

#### Cone.

Globes striped red, blue and white (natural).

$\frac{1}{2}$  to 8 candle power. Voltage up to 60 volts.

Specify candle power and voltage when ordering.

<i>Silicon</i>	23052 Mounted.....	1.10
<i>Silicule</i>	23053 Not mounted.....	1.00
<i>Siliqua</i>	23054 With stems.....	1.10

The stripes are made in two styles as shown in the cuts, style A and style B.

#### Sphere.

$\frac{1}{2}$  to 8 candle power. Voltage up to 20 volts.

Specify candle power and voltage when ordering.

<i>Silique</i>	23055 Mounted.....	1.10
<i>Silk</i>	23056 Not mounted.....	1.00
<i>Silkcotton</i>	23057 With stems.....	1.10



# Miniature Incandescent Lamps—(Continued.)

## Lens Lamps.

The lenses are fused on the globe during the process of blowing. They are able to quadruple the amount of light emitted by a lamp through concentration into a beam. They can be used in microscopes, models, and for stage effects.

$\frac{1}{2}$  to 6 candle power. 2 to 20 volts. No higher voltage is possible on account of the small size of the globe.

Code Word.	List No.	List Price. Each.
<i>Silken</i>	23058 Single Lens Lamp	\$ 1.25
<i>Silkygrass</i>	23059 Two " "	1.50
<i>Silkiness</i>	23060 Three " "	2.00
<i>Silkman</i>	23061 Single " "	1.00

Same Lamps with coiled carbons 25 cents extra.

Mounting on Screw Bases or Glass Stems 10 cents extra.

## Zone Lamps.

These Lamps are especially suitable for such kinds of illumination where movable lights of constantly varying colors are required.

The Bulbs of these Lamps are made of combination of two or three of the following kinds of glass:

Crystal, Milk, Blue, Amber,  
Ruby Green, Violet.

All colors are natural.

<i>Silkail</i>	23062 Lamps of two kinds of glass	1.50
<i>Silkness</i>	23063 " three " "	2.00

These Lamps can be furnished mounted for stage dress for 40 cents extra.

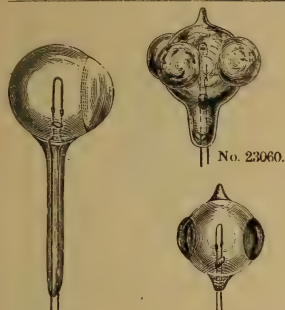
## Lantern Lamps.

$\frac{1}{2}$  to 8 candle power. 2 to 60 volts.

Specify candle power and voltage when ordering.

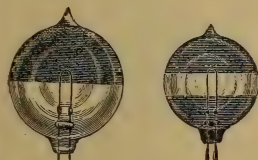
These Lamps are suitable for Yacht, Carriage, Bicycle, Miners' and Doctors' Head and other Lanterns.

<i>Silksong</i>	23064 Sphere Lamp with side connection	1.25
<i>Silkweed</i>	23065 " " plain	.90
<i>Silkworm</i>	23066 Flat " "	.90
<i>Silky</i>	23067 " " "	1.25



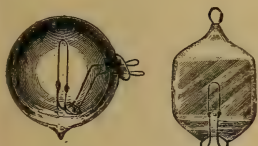
No. 20058.

No. 23060.



No. 23062.

No. 23063.



No. 23064.

No. 23066.



No. 23067.



No. 23068.



No. 23069.

## Miniature Incandescent Lamps—(Continued)

### Lantern Lamps—Continued.

$\frac{1}{4}$  to 8 candle power. 2 to 60 volts.  
Specify voltage and candle power.

Code Word.	List No.	Price List. Each.
<i>Sill</i>	23068 Flat Lamp.....	\$ .90
<i>Silly</i>	23069 " " .....	1.50



No. 23070.

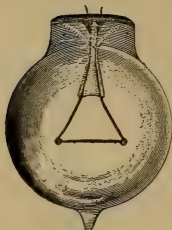
From 2 to 20 volts only.

$\frac{1}{2}$  to 8 candle power.

Specify voltage and candle when ordering.

<i>Sillock</i>	23070 Lantern Lamp.....	.75
<i>Sillon</i>	23071 Condenser Lamp .....	.85

No. 23071 Condenser Lamp is same pattern as No. 23070, but larger in size with a U shaped filament.



No. 23072.



No. 23074.

<i>Silly</i>	23072 Condenser Lamp .....	1.50
<i>Sillyhove</i>	23073 Railroad Lamp, single filament.....	1.50
<i>Silo</i>	23074 " " double " .....	2.00

## Colored Lamps.

All lamps here illustrated can be furnished in the following natural colors:

- |   |  |
|---|--|
| 1. Milk-white; Opaque, superior to frosted glass. | 5. Violet.   |
| 2. Ruby; Chloride of gold glass.                  | 6. Amber.  |
| 3. Blue.  | 7. Greenish-Yellow; Uranium, phosphorescing glass. |
| 4. Green.   |  |

For colors, 20 cents additional for each lamp.

Frosting, 10 cents additional per lamp.



No. 13580.

## Receptacles for Candelabra Lamps.

### Standard Round Candelabra Receptacle.

Code Word.	List No.	List Price.
		Each.
<i>Lanesboro</i>	13580	\$ .30



No. 13581.

### Standard Flat-Base Candelabra Receptacle.

<i>Langdon</i>	13581	.30
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No. 13582.

### Candelabra Shade-Holder Receptacle.

<i>Langford</i>	13582	.75
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No. 13583.

## Star Shades with Colored Edging.

<i>Lansing</i>	13583	1.00
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## Receptacles for Miniature Lamps.



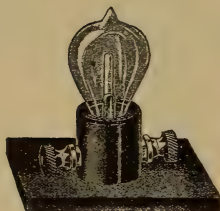
No. 13585.

### Round Miniature Lamp Receptacle.

Code Word. List No.

*Lansingburg* 13585List Price.  
Each.

\$ .30

*Laona*

### Square Miniature Lamp Receptacle.

13586

.50

*Lapeer*

### Miniature Shade-Holder Receptacle.

13587

.75



No. 13588.

### Shades for Miniature Lamps.

*Laramie*

13588

.30

# Electric Cooking and Heating Apparatus.

## General Instructions as to installation and use of Cooking and Heating Devices.

In wiring for Electric Heating and Cooking Appliances, the capacity of conductors should be the same as for electric lights or motors using the same current.

Installations must be made in accordance with the rules of the Local Board of Underwriters applying to Electric Light, Heat and Power.

Special Plug Switches should be used, and the receptacle properly fused. Ordinary attaching plugs for lamp sockets must not be used; nor any appliances connected to a lamp socket, unless expressly specified.

Flexible Conductor Cord furnished with the apparatus should be used. This cord is made expressly for the purpose; is water and fire-proof, and has been specifically approved by the Board of Underwriters.

In ordering always state voltage required. All our apparatus will work on either the direct or alternating current.

All articles are marked for the volts required; under no circumstances should the apparatus be used on circuits of different voltage

In the event of failure of any article to operate properly, notify the agent from whom you purchased the device, explaining the nature of the failure as you understand it, but do not take the article apart.

When using the cooking utensils always prepare the

food before turning on the electricity; and if the vessel is to hold a liquid, be sure that some liquid is in it before the current is turned on, and that the supply is not exhausted while the utensil is in use.

Never empty a vessel while the current is turned on.

Articles should never be taken apart nor immersed in water, unless intended for that purpose.

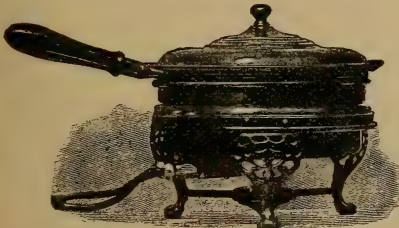
Appliances for heating water in which the heating apparatus is enclosed in a coiled copper tube, should be always kept supplied with sufficient water to cover the coil.

Always turn the current off when the apparatus is not in use. As this rule is observed, it is cheaper or dearer than coal.

Suspend the conductor cords of laundry irons by spiral springs or rubber bands over the work tables. This will keep the wires away from the work. Smoothing irons heat rapidly when on the stand with the current on. Don't pull the utensils around by the connecting cords.

Smoothing irons, portable stoves and similar apparatus require from four to ten minutes to heat to their working temperature. Devices for boiling, such as tea kettles, chafing dishes, farina boilers, glue pots, etc., require from ten to twenty minutes to boil. Large urns, from thirty to forty minutes.

## Electric Chafing Dish.



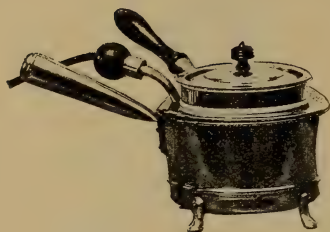
No. 23152.

The use of a Chafing Dish has become well-nigh universal, but how frequently does it happen that when the guests are gathered at the table it is discovered that the alcohol is exhausted. The Electric Chafing Dish requires no alcohol, but is always ready for use. It is furnished in a graceful pattern, in the conventional form, of spun copper, highly finished in silver or nickel. A most acceptable present for any one. Adapted to any lighting circuit. Mention voltage.

Code Word.	List No.	Amperes at 110 volts.	List Price. Each.
<i>Sinisterly</i>	23152	Two quarts, nickel plated, 4	\$15.00
<i>Sinistrul</i>	23153	Two quarts, silver plated, 4	20.00



## Electric Cooking and Heating Apparatus (Continued.)



No. 23154.

### Farina Boiler.

This very useful device has proved to be the most convenient for a great variety of uses. The outer vessel is of heavy copper, nickel plated, the inner being made entirely of porcelain, the heating coil (also nicked) is in a water-bath surrounding the porcelain pot in which the cooking is done. It is so constructed that all parts are easily separated.

Any little article of food prepared and served in an attractive manner is always more palatable, and this adds much to its enjoyment whether one is ill or well. For the many uses to which this boiler may be applied it is ideal. It is so designed that three divisions of heat may be obtained—the maximum, to quickly heat up the vessel; then a less amount may be used to do the cooking, or a still less amount to keep the contents of the vessel warm.

Made for direct or alternating current, the usual voltages used for lighting.

Code Word.	List No.	Amperes at 110 Volts.	Price List Each.
<i>Sinistrous</i>	23154	One quart, 3 heats, 4—2—1	12.00
<i>Sink</i>	23155	Two quarts, 3 heats, 6—3—2	13.50



No. 23156.

### "Five O'clock Tea."

With this very handsome combination one can complete the furnishing of a tea table in keeping with its dainty silver, china and linen. The silent electric current quickly supplies the necessary heat without the use of alcohol, matches and flame, and also provides a stove (when the kettle is removed), on which to warm the wafers or crackers. It is artistic in design, highly finished in silver or nickel plate.

Made for any electric lighting circuit.

			Amperes at 110 Volts.	
<i>Sinker</i>	23156	One quart, nickel plated,	4	16.50
<i>Sinkhole</i>	23157	" " silver "	4	20.00



No. 23158.

### Electric Stew Pan.

This is a universal utensil, very attractive in appearance, and one of the most salable of electric heating devices. The heater consists of a  $4\frac{1}{4}$  inch disc, to which is fitted an (removable) Aluminum Stew Pan, with capacity of  $\frac{1}{4}$  of a quart. Just the thing to use in light-housekeeping, exactly what is wanted in a physician's office, drug store, hospital, the nursery, or where a little food is to be cooked, a hot drink made, or hot water used. Quick, clean and inexpensive. Connects to any lamp socket. Packed complete with cord and plug.

			Amperes at 110 Volts.	
<i>Sinless</i>	23158	Heater and Aluminum Stew Pan,	2	5.00

## Electric Cooking and Heating Apparatus (Continued.)

### Electric Curling Iron Heaters.



No. 23159.

This simple device has become a necessity in many homes, apartment houses, hotels, steamers, etc., where the incandescent lamp has displaced gas or lamps. It may be attached to any lamp socket, heats quickly, uses less current than a 16 c. p. lamp, and renders unnecessary candles or other more or less dangerous heating devices in the dressing room. The use of an always clean iron is of no little importance when just finishing the toilet. They are quite ornamental. The current is automatically cut off when the iron is removed. Made for direct or alternating current—52, 100 or 110 volts. Mention whether for Edison, Westinghouse or T. H. Sockets. One in a package, complete, ready for use.

Code Word.	List No.	Amperes of 110 Volts.	List Price Each.
<i>Singer</i>	23159	Automatic, $\frac{1}{16}$	\$3.00

Special Electric Heating Devices to order.

### Electric Heating Pad.

The perfection of this device is a very important step in electrical development. By its use heat may be applied in an ideal way to the body. In form it is similar to that of a piece of thick, soft felt. It is light (weighing but a few ounces), clean, safe, and free from all objectionable features of hot water bottles, poultices or other hot applications, and far more effective. It is always ready for use, wherever electric lights are used, costs very little to operate, is so constructed that it will last for many years, and the first cost is moderate. Its great value in the hospital and cases where hot applications are necessary to sustain life is evident. It is extremely useful as a foot warmer for invalids or elderly people, and proves to be a household necessity wherever used. Operates on any incandescent lighting circuit. State voltage and kind of lamp socket when ordering.

One-half amperes at 110 volts.

<i>Sinople</i>	23160	12 x 15 inches, complete, with cord and plug . . .	5.00
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## Electric Cooking and Heating Apparatus

—(Continued.)



No. 23162.

## Portable Stove.

This Electric Stove is 4½ inches in diameter, is mounted on enameled slate base, has five feet of flexible cord, with plug connection for lamp socket. The stove is "hot" in about two minutes from the time current is turned on. It is just the thing for warming milk, boiling an egg, quickly making a hot drink of any kind, and for a physician's office.

Code Word.	List No.	List Price. Each.
<i>Sinter</i>	23162 Complete, 4 in. diam., ready for use.....	\$4.00
<i>Sintoe</i>	23163 " 6 in. " " " .....	7.00

The current required is 2 amperes at 110 volts. Made for 50, 100, 110 volts direct or alternating current.



No. 23171.

## Immersion Coil Heater.

This useful form of heater has many applications. It may be used for heating liquids contained in almost any kind of vessel, and has the advantage over any other form of liquid heater of communicating all the heat generated to the liquid. While shown coiled in cylindrical form, they can be furnished in flat coils or to conform to the shape of vessels in which they are to be used. These heaters are also made for three divisions of heat, controlled with a switch on the coil. The amounts are maximum, one-half and one quarter. By having this arrangement the highest economy is obtained in operation. The maximum being used to quickly heat up, and the minimum to maintain the temperature.

The coils consist of copper tubes, and are furnished either plain or nicked. They are made for 52 or 110 volts, alternating or direct current, of such capacity as desired.

			Price 1 heat.	If with 3 heats.
<i>Sipid</i>	23171	Capacity, 100 to 440 Watts.....	\$ 6.00	\$ 7.00
<i>Sipper</i>	23172	" 440 " 660 " .....	7.50	8.50
<i>Sipper</i>	23173	" 700 " 880 " .....	8.50	9.50
<i>Sippling</i>	23174	" 900 " 1100 " .....	10.00	11.00

State voltage when ordering

## Electric Cooking and Heating Apparatus (Continued.)

### Electric Glue Pot.



No. 23164.

No fire, no smoke, no dirt, no gases, no danger.

It is made entirely of burnished copper, and will last indefinitely. The water bath contains a relatively small amount of water, which is automatically replenished from a reservoir, heated by coil heater, arranged to give three divisions of heat. The maximum to be used to quickly heat the glue, and the minimum is usually sufficient to maintain the glue at the proper consistency. Absolutely no fire risk as with pots heated by gas or gasoline. This advantage alone is enough to justify a change from the old to the new. Pots are made for 52, 100 or 110 volt circuits, either direct or alternating.

		Amperes at 110 volts.			
		Max.	Med.	Min.	
<i>Sinuate</i>	23164 1 pint .....	3	1.5	$\frac{1}{4}$	13.00
<i>Sinuation</i>	23165 1 quart .....	4	2.	1	14.00
<i>Sinuose</i>	23166 2 quarts .....	6	3	$1\frac{1}{2}$	16.00
<i>Sinuans</i>	23167 1 gallon .....	10	5.	$2\frac{1}{2}$	18.00

Other sizes to order. State voltage when ordering.

In addition to the special glue pot shown in cut, we also furnish them without the reservoir. The entire pot is of heavy copper, with coiled copper heater, being in every way as substantial and durable as is possible to construct such a device. With this pot it requires from 16 to 20 minutes to have the glue ready for use, starting with everything cold. Much less time is required for the special type. In no other particular are they superior, while the price is less. In all glue pots the minimum current is sufficient to maintain the glue in proper condition for work.

		Amperes at 110 volts.			
		Max.	Med.	Min.	
<i>Sip</i>	23168 1 pint .....	4	2	1	10.00
<i>Sipe</i>	23169 1 quart .....	6	3.	$1\frac{1}{2}$	11.00
<i>Siphon</i>	23170 2 quarts .....	8	4	2	12.50

## Electric Cooking and Heating Apparatus (Continued.)

### Electric Smoothing Irons.



No. 23177.

Unlike all others, except in form, are always clean, polished, and permit of continuous use. No time is lost in changing, cleaning, or useless rubbing with a cold iron, for they produce a "live heat" which is continuous throughout the period of use. A greater amount of work can be done by an operator in a given time with more ease and comfort than is possible with any other iron. The ordinary iron when first taken from the stove is frequently scorching hot, and gradually cools until repeated rubbing is necessary, where one stroke would suffice if the iron was "just right." Electric irons remain "just right," and no hot coal or gas stoves are required. These irons have proven of great value in sewing rooms, laundries and manufacturing establishments, and are deemed indispensable by those who have them.

We call particular attention to the Small Seaming Iron, No. 23175, for apartment house use, as it is specially suitable for laces, handkerchiefs and all similar light goods. Can be attached to any lamp socket.

Each iron is supplied with a suitable stand on a slate base; also five feet of duplex conductor. For additional length add 15 cents per foot to cost of iron. Special forms for factory use, 50, 100 or 110 volts as required.

Code Word.	List No.	Amperes at 110 Volts.	List Price. Each.
<i>Sir</i>	23175 4½ lbs., Small Seaming,	2 Amp	\$6.00
<i>Sire</i>	23176. 6½ " Light Domestic,	4 "	7.00
<i>Siren</i>	23177 7½ " Domestic,	5 "	7.50
<i>Sirene</i>	23178 9 " Heavy Laundry, 5 or 6 "	6 "	8.00



No. 23179.

### Polishing Irons.

#### Regular Standard Sizes.

These irons have the regular polisher bottom and are usually installed where the electric sad iron is adopted. Made in one weight, about four pounds.

	Volts.	Amp. Consumpt.	Fuse required.
<i>Sirental</i>	50	3, 4, 4½, 5,	5 amp.
<i>Sirentize</i>	110	1½, 2, 2½,	3 "
	23179	50 Volts	8.00
	23180	110 "	8.00



## Electric Cooking and Heating Apparatus (Continued.)

### Goose Irons.



No. 23181.

These are essentially an industrial appliance. Their adoption has been so general that they may now be considered a fixture which no manager, seeking the most economical operation of his factory, can afford to overlook. Four people will easily do the work of five who use any other form of iron. One iron to each person is all that can be used. It is always ready for use and at hand; no walking half the length of the building to a stove to exchange irons with its consequent loss of time.

	Volts.	Amp. Consumpt.	Fuse Required.
12 and 18 lbs. {	50	7, 8, 9, 10	10 amp.
	110	3½, 4, 4½, 5	5 "
25 lbs. {	50	10, 12, 14, 16	16 "
	110	5, 6, 7, 8	8 "

<i>Siriusis</i>	<b>23181</b>	12 lb. Goose.....	<b>13.00</b>
<i>Siritch</i>	<b>23182</b>	18 lb. " .....	<b>13.00</b>
<i>Sirius</i>	<b>23183</b>	25 lb. " .....	<b>16.00</b>

State voltage when ordering.



No. 23161.

### Electric Foot Warmer.

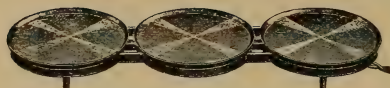
This device appeals at once to many who suffer with their head bursting from heat in a vain endeavor to keep warm. Improper distribution of heat, floor draughts, the temperature difference between the floor and a higher level, all combine to produce cold feet and, as a sequence, an uncomfortable condition generally. The electric foot warmer exactly supplies the remedy by producing a little heat just where it is wanted, and a high temperature in the room is unnecessary. It is made of cast-iron, in form to constitute a most desirable foot rest, finished in black japan, is guaranteed to last for many years, and may be left in circuit indefinitely—packed complete with cord and plug ready to connect to lamp socket. The current required is the same as for the usual (16-candle power) incandescent lamp. State voltage and kind of socket when ordering. Made for all incandescent lighting circuits.

<i>Simple</i>	<b>23161</b>	Foot Warmer, size 9 x 10 ins.	Amperes at 110 volts. 16	....	<b>7.00</b>
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## Electric Cooking and Heating Apparatus (Continued.)



No. 23188.



No. 23186.

### Disc Heaters.

The cut represents Disc Heater. The heating plate is 6½ inches in diameter and mounted on a cast iron base, neatly japanned.

An intense heat is made by turning the switch to the extreme right, when boiling, frying, etc. When switch is placed on middle contact the temperature is reduced one-half, where it may be maintained indefinitely. This feature makes the utensil valuable in the kitchen, sick room or nursery, where water may be heated or food quickly and easily prepared. This serviceable utensil is now in use in private families, hotels, restaurants, physicians' offices, match factories, furniture factories, printing offices, laboratories, smelting works, sugar refineries, etc.; etc.

Disc Heaters 8 and 9 inches in diameter will be made to order in lots of not less than one half dozen. Apply for prices.

Volts.	Amp. Consumption.	Fuse required.
50	6, 8, 10,	10 amp.
110	3, 4, 5,	5 "

Code Word. List No.

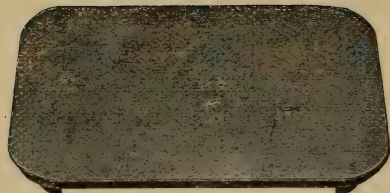
List Price:  
Each.

*Sirrygh* 23188 Disc Heater, 6½ in. diameter..... \$9.00

### Pancake Griddles.

Griddles for Domestic use are made with one or with three polished circular heating plates on a cast iron frame or stand, neatly japanned. Their action is very quick, being ready to bake cakes within two minutes from the time the current is turned on.

The restaurant griddle, having one polished plate 12 x 18 in., is the largest size made. Three, four or more of these griddles side by side, may be operated at once or in units of one, two or three, according to the amount of work to be done, by which you pay for the actual amount of work done, instead of heating up a large griddle to do a small amount of work.



No. 23187.

	Volts.	Amp. Consumpt.	Fuse Required.
1 Sec. {	50	4, 5, 6,	6 amp.
	110	2, 2½, 3,	3 "
3 Sec. {	50	10, 11,	12 "
	110	5½, 6, 8,	8 "
12 x 18 {	50	30,	30 "
	110	15,	15 "

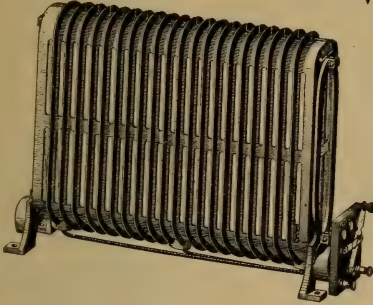
*Sirrygh* 23185 One Section, for Domestic Use (Polished Surface), 7.50  
*Sirorro* 23186 Three " " " " " " 13.00

The Three Sections are not carried in stock, but made to order only.

*Sirrygh* 23187 Restaurant Size, 12 x 18 (Polished Surface) ..... 15.00

## Electric Air Heaters.

### Western Electric Company's Heater.



No. 23189.

Unless electricity is produced at very low cost, it is not commercially practicable to heat residences or large buildings. While this is true, the electric heater still has a wide field of application in heating small offices, bath rooms, snuggeries, cold corners of rooms, street railway waiting rooms, the summer villa on cool evenings, and in mild climates a still wider range. It has the peculiar advantage of being instantly available, and the amount of heat is regulated at will. The heaters are perfectly clean, do not vitiate the atmosphere, and are portable. No definite rule can be given to determine the amount of electricity necessary for heating a given space though approximate estimates can be made by allowing from 1 to 2 watts for each cubic foot of air space to be heated. The latter amount for well constructed buildings in cold weather, or for quickly heating a bath room. The electric heater is extremely valuable in the late spring, when furnace fires are not in use, and a sudden raw spell comes on—the electric current is immediately available and takes the chill from the rooms at a minimum expense and trouble.

The Western Electric Company's Heater, made in the shape of a small steam radiator is  $14\frac{1}{2}$  inches long,  $3\frac{3}{4}$  inches thick, and stands in height  $12\frac{1}{2}$  inches, is finished in black enamel or Japan. It is made for two adjustments, half capacity and full capacity; the switch indicates when the current is off, when half of the heater is used and when it is all in use.

Made for 50 or 100 volts. Specify in your order the voltage, and whether direct or alternating current.

Volts.	Amp. Consumption:	Fuse required.
100	14	20 amp.

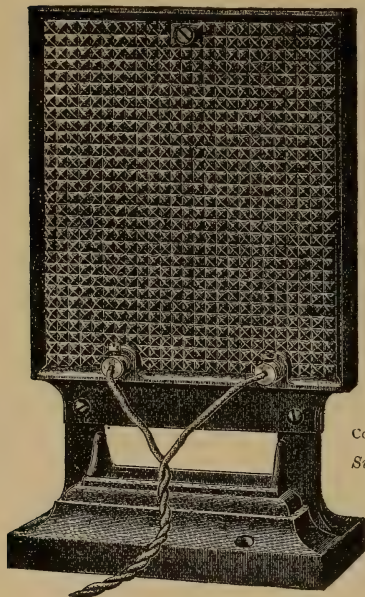
Code Word.	List No.	List Price. Each.
<i>Sercente</i>	23189 Western Electric Heater.....	\$18.00

### American Heaters.

The Heaters are finished in Black Japan, and are usually arranged to give three different adjustments of heat. They are made for any circuit. State whether for direct or alternating, and voltage when ordering.

Code Word.	List No.	Length.	Height.	Width.	Max. Watt Capacity.	List Price. Each.
<i>Sisalgrasse</i>	23190	26 in.	x 22 in.	x 2 in.	2,000	\$25.00
<i>Siscery</i>	23191	26 "	x 22 "	x 4 "	4,000	30.00
<i>Siskin</i>	23192	26 "	x 22 "	x 7 "	6,000	45.00
<i>Siskinit</i>	23193	26 "	x 10 $\frac{1}{2}$ "	x 2 "	1,200	15.00
<i>Siss</i>	23194	26 "	x 10 $\frac{1}{2}$ "	x 4 "	2,400	20.00
<i>Sissao</i>	23195	26 "	x 10 $\frac{1}{2}$ "	x 7 "	3,500	30.00
<i>Sist</i>	23196	26 "	x 10 $\frac{1}{2}$ "	x 10 "	4,500	40.00

Made in Gold Bronze or White Enamel for \$10.00 additional to List Prices.



No. 23107.

## Electric Air Heaters—(Continued.)

### Atmospheric Heater.

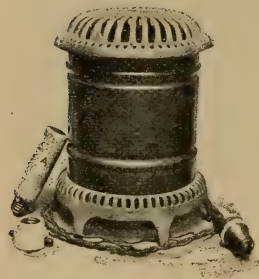
#### Double.

This Heater is constructed with two heating plates, each 7 x 8 inches, supported on a neat base four inches high. In setting up, it can be so arranged that one or both plates may be used at the same time, and will be found very serviceable in small rooms or for other light work.

	Volts.	Amp. Consumption.	Fuse Required.
	50	17	18 amp.
	110	8½	9 "

Code Word.	List No.	List Price. Each.
<i>Sister</i>	23197 Atmospheric Heater .....	\$12.00



"F" TYPE.

No. 23198.

### Portable Electric Heater.

This Heater contains six heating coils and consumes 3.5 amperes on 110 volt circuit, and 0.8 of one ampere on 500 volts.

Temperature of heating coils 640° Fahr.

<i>Sisterhood</i>	23198	Type F, Portable Heater.....	15.00
<i>Sisterly</i>	23199	No. 7 Large .....	30.00
<i>Sistrum</i>	23400	No. 8 .....	24.00

# Conduit and Conduit Fittings.

## Interior Conduit.

### Iron Armored Conduit.

#### For Direct and Alternating Currents.

The Iron Armored Conduit possesses all the qualities of gas or water pipe, and can be installed with equal ease by the use of tools for cutting, threading, etc. In combination with the brass armored conduit it can be advantageously employed in construction work under concrete, tiled or mosaic floors, and other like places, without the expensive precautions for protection that are necessary in the use of plain or brass armored conduit.

Thickness of armor,  $\frac{1}{8}$  inch. All sizes supplied in ten foot lengths, each length having a coupling attached to one end. Tubes have straight threads at both ends, and in making joints these ends should be firmly butted in center of coupling to secure continuity of insulation.

Prices on all Iron Armored Conduit and fittings are subject to change, on thirty days' notice, on account of the fluctuation in prices of iron piping. Contractors are advised to obtain from us latest quotations before placing their orders.



Cross Section.

Code Word.	List No.					List Price Per 100 ft.
<i>Needle</i>	6710	$\frac{1}{2}$	in. inside diam.	.84	in. outside diam.	\$10.25
<i>Needless</i>	6711	$\frac{7}{16}$	"	1.05	"	13.00
<i>Needlessly</i>	6712	$\frac{9}{16}$	"	1.315	"	18.00
<i>Needlework</i>	6713	$1\frac{1}{4}$	"	1.96	"	28.00
<i>Neglected</i>	6714	$1\frac{1}{2}$	"	1.90	"	36.00
<i>Negotiate</i>	6715	$1\frac{5}{8}$	"	2.375	"	50.00
<i>Negro</i>	6716	$2\frac{1}{4}$	"	2.875	"	67.00
<i>Negus</i>	6717	$2\frac{3}{8}$	"	3.50	"	84.00

All elbows, nipples and special couplings, as well as tools necessary for use with Iron Armored Conduit, can be furnished by us, and prices on same may be had on application.



## Interior Conduit—(Continued.)

## Iron Armored Conduit—(Continued.)

## No. 519 Iron Covered S Elbow.

Code Word.	List No.		List Price. Per 100.
<i>Nonadic</i>	6728	$\frac{1}{2}$ inch, inside diam., 14 inches offset	\$41.00
<i>Nonenclature</i>	6729	$\frac{7}{16}$ " " " "	62.00
<i>Nominal</i>	6730	$\frac{9}{16}$ " " " "	76.00
<i>Nominate</i>	6731	$1\frac{1}{4}$ " " " "	96.40
<i>Nonage</i>	6732	$1\frac{1}{16}$ " " " "	182.00
<i>Nonconformist</i>	6833	$\frac{1}{2}$ " " " "	42.70
<i>Nondescript</i>	6834	$\frac{7}{16}$ " " " "	64.25
<i>Nones</i>	6835	$\frac{9}{16}$ " " " "	79.10
<i>Nonpareil</i>	6736	$1\frac{1}{4}$ " " " "	100.40
<i>Nonplus</i>	6737	$1\frac{1}{16}$ " " " "	187.00
<i>Nonsense</i>	6738	$\frac{1}{2}$ " " " "	44.40
<i>Nook</i>	6739	$\frac{7}{16}$ " " " "	66.50
<i>Noon</i>	6740	$\frac{9}{16}$ " " " "	82.20
<i>Noonday</i>	6741	$1\frac{1}{4}$ " " " "	104.40
<i>Normal</i>	6742	$1\frac{1}{16}$ " " " "	192.00



No. 6728.

## No. 512 Iron Covered Corner Elbow.

<i>Northerly</i>	6743	$\frac{1}{2}$ inch, inside diam., 14 inches offset	41.00
<i>Northern</i>	6744	$\frac{7}{16}$ " " " "	62.00
<i>Northward</i>	6745	$\frac{9}{16}$ " " " "	76.00
<i>Nosyng</i>	6746	$1\frac{1}{4}$ " " " "	96.40
<i>Nosology</i>	6747	$1\frac{1}{16}$ " " " "	182.00
<i>Nostrum</i>	6748	$\frac{1}{2}$ " " " "	42.70
<i>Notable</i>	6749	$\frac{7}{16}$ " " " "	64.25
<i>Notably</i>	6750	$\frac{9}{16}$ " " " "	79.10
<i>Notarial</i>	6751	$1\frac{1}{4}$ " " " "	100.40
<i>Notary</i>	6752	$1\frac{1}{16}$ " " " "	187.00
<i>Notation</i>	6753	$\frac{1}{2}$ " " " "	44.40
<i>Noteh</i>	6754	$\frac{7}{16}$ " " " "	66.50
<i>Note</i>	6755	$\frac{9}{16}$ " " " "	82.20
<i>Notebook</i>	6756	$1\frac{1}{4}$ " " " "	104.40
<i>Noted</i>	6757	$1\frac{1}{16}$ " " " "	192.00



No. 6743.

## No. 416 Long Insulating Elbows.

No. 416 Elbow corresponds in style with No. 116 Brass Armored Elbow.

INSIDE DIAMETER.	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{9}{16}$	$1\frac{1}{4}$	$1\frac{1}{16}$	OFF-SET.
Length, 10 inches.....Per 100	\$23 00	\$28 00	.....	.....	.....	$\frac{1}{2}$ inch Elbow, 63 inches.
" 12 " " " " "	25 00	30 50	\$40 00	.....	.....	$\frac{7}{16}$ " " 7 " "
" 14 " " " " "	27 00	33 00	44 00	\$58 00	.....	$\frac{9}{16}$ " " 8 $\frac{1}{2}$ " "
" 16 " " " " "	29 00	35 50	48 00	63 00	\$106 00	$1\frac{1}{4}$ " " 10 $\frac{1}{2}$ " "
" 18 " " " " "	31 00	38 00	52 00	68 00	114 00	$1\frac{1}{16}$ " " 12 " "

## Interior Conduit—(Continued.)

## Iron Armored Conduit—(Continued.)



No. 6718.

## No. 414 Short Insulating Elbows.

Code Word.	List No.		List Price. Per 100.
Nocturnal	6718	$\frac{1}{2}$ inch, inside diameter.....	\$18.00
Nod	6719	$\frac{3}{8}$ " " " ".....	23.00
Noddle	6720	$\frac{1}{2}$ " " " ".....	30.00
Noddy	6721	$1\frac{1}{4}$ " " " ".....	35.00
Nodde	6722	$1\frac{1}{8}$ " " " ".....	60.00
Nodule	6723	$1\frac{3}{8}$ " " " ".....	165.00
Noggin	6724	$2\frac{1}{4}$ " " " ".....	240.00
Noise	6725	$2\frac{3}{8}$ " " " ".....	350.00



No. 21475.

## No. 418 Insulating Outlet Elbows.

Sauciness	21475	$\frac{1}{2}$ inch .....	22.00
Saucy	21476	$\frac{3}{8}$ " ".....	30.00
Sauerkraut	21477	$\frac{1}{2}$ " ".....	40.00



No. 21478.

## No. 419 Insulating Outlet Elbows.

Sawpter	21478	$\frac{1}{2}$ inch inside diameter.....	20.00
Sawnter	21479	$\frac{3}{8}$ " " " ".....	27.00
Sawrin	21480	$\frac{1}{2}$ " " " ".....	35.00



No. 21481.

## No. 580 Insulating Elbow Outlets.

Sausage	21481	$\frac{1}{2}$ inch inside diameter.....	25.00
Sauoble	21482	$\frac{3}{8}$ " " " ".....	30.00
Savage	21483	$\frac{1}{2}$ " " " ".....	38.00
Savagely	21484	$1\frac{1}{4}$ " " " ".....	50.00



No. 21585.

## No. 581 Insulating Elbow Outlets.

Savageness	21485	$\frac{1}{2}$ inch inside diameter.....	25.00
Savagery	21486	$\frac{3}{8}$ " " " ".....	30.00
Savagism	21487	$\frac{1}{2}$ " " " ".....	38.00
Savanna	21488	$1\frac{1}{4}$ " " " ".....	50.00



No. 284.

### Interior Conduit—(Continued.)

### Iron Armored Conduit—(Continued.)

### No. 284 Insulating Nipples.

## List Prices.

INSIDE DIAM.	LENGTH IN INCHES						PRICE, EACH		PRICE, EACH, OF EXTRA LONG.									
	Inches.	Close.	Short	Long				Close or Short.	Long.	5 in.	6 in.	7 in.	8 in.	9 in.	10 in.	11 in.	12 in.	
$\frac{1}{8}$				$1\frac{1}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$											3
$\frac{1}{16}$	$1\frac{1}{4}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	09	11	20	21	22	23	25	27	29	31		
$\frac{1}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	10	15	22	24	27	29	31	33	36	40		
$\frac{1}{16}$	$1\frac{3}{4}$	$2\frac{1}{2}$	$3\frac{1}{2}$	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$	14	20	29	31	33	35	38	40	43	46		
$\frac{1}{8}$	$1\frac{7}{8}$	$2\frac{3}{4}$	$3\frac{3}{4}$	$4\frac{3}{4}$	$5\frac{3}{4}$	$6\frac{3}{4}$	17	25	36	38	40	42	45	48	51	55		
$\frac{1}{16}$	$2\frac{1}{8}$	$3\frac{1}{8}$	$4\frac{1}{8}$	$5\frac{1}{8}$	$6\frac{1}{8}$	$7\frac{1}{8}$	21	32	44	50	54	59	64	69	74	80		
$\frac{1}{8}$	$2\frac{1}{4}$	$3\frac{1}{4}$	$4\frac{1}{4}$	$5\frac{1}{4}$	$6\frac{1}{4}$	$7\frac{1}{4}$	26	39	54	61	67	73	79	85	91	98		
$\frac{1}{16}$	$2\frac{3}{8}$	$3\frac{3}{8}$	$4\frac{3}{8}$	$5\frac{3}{8}$	$6\frac{3}{8}$	$7\frac{3}{8}$	31	46	64	73	80	86	91	97	103	110		
$\frac{1}{8}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	35	52	75	85	91	97	103	109	115	122		
$\frac{1}{16}$	$2\frac{5}{8}$	$3\frac{5}{8}$	$4\frac{5}{8}$	$5\frac{5}{8}$	$6\frac{5}{8}$	$7\frac{5}{8}$	41	60	87	99	107	114	121	128	135	143		



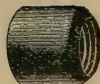
No. 21489.

### No. 104 Couplings.

Code Word.	List No	1/2 inch inside diameter, per 100.	List Price.
<i>Sacaut</i>	21489	" " " " " "	\$7.00
<i>Sace</i>	21490	$7\frac{1}{16}$ " " " "	10.00
<i>Sacer</i>	21491	$7\frac{1}{10}$ " " " "	13.00
<i>Sacru</i>	21492	$1\frac{1}{4}$ " " " "	17.00
<i>Sacing</i>	21493	$1\frac{1}{16}$ " " " "	21.00
<i>Sacivagness</i>	21494	$1\frac{3}{16}$ " " " "	28.00
<i>Savor</i>	21495	$2\frac{1}{4}$ " " " "	40.00
<i>Savoriness</i>	21496	$2\frac{3}{8}$ " " " "	60.00

### No. 104 Right and Left Couplings.

<i>Sawtooth</i>	21497	$\frac{1}{4}$ inch inside diameter, per 100	11.00
<i>Sawyer</i>	21498	$\frac{3}{8}$ " " " " " "	15.00
<i>Saw</i>	21499	$\frac{1}{2}$ " " " " " "	20.00
<i>Steadfast</i>	21500	$\frac{3}{4}$ " " " " " "	25.00
<i>Stemmill</i>	21501	$1\frac{1}{8}$ " " " " " "	30.00
<i>Swamp</i>	21502	$1\frac{3}{8}$ " " " " " "	50.00
<i>Sweet</i>	21503	$2\frac{1}{4}$ " " " " " "	85.00
<i>Swayer</i>	21504	$2\frac{3}{8}$ " " " " " "	120.00



No. 21505

## No. 582 Caps.

<i>Surfridge</i>	21505	$\frac{1}{2}$	inch inside diameter, per 100	5.00
<i>Saxon</i>	21506	$\frac{7}{16}$	" " " "	8.00
<i>Saxonism</i>	21507	$\frac{1}{2}$	" " " "	11.00
<i>Scab</i>	21508	$\frac{1}{4}$	" " " "	15.00
<i>Scabhard</i>	21509	$1\frac{1}{16}$	" " " "	22.00
<i>Scabbed</i>	21510	$1\frac{1}{16}$	" " " "	30.00
<i>Scabiness</i>	21511	$\frac{3}{4}$	" " " "	50.00
<i>Scabby</i>	21512	$2\frac{1}{16}$	" " " "	80.00

No. 583 Plugs. Cast Iron.



No. 21514.

Scorpius	21513	$\frac{1}{4}$	inch, each	..	.04
Scorpius	21514	$\frac{7}{16}$	"	"	.05
Skeeback	24058	$\frac{1}{16}$	"	"	.06
Skeembridge	24059	$\frac{1}{16}$	"	"	.10
Skever	24060	$1\frac{1}{8}$	"	"	.13
Skever	24061	$1\frac{1}{8}$	"	"	.20
Skiff	24082	$2\frac{1}{2}$	"	"	.35
Skidder	24063	$2\frac{1}{2}$	"	"	.50

# Conduit and Conduit Fittings.

## INTERIOR CONDUIT.

### New Iron Armored Insulating Conduit.

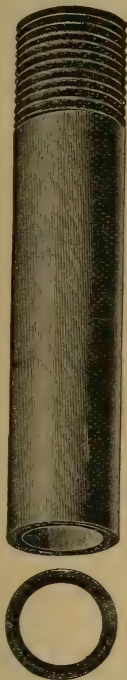
#### For Direct and Alternating Currents.

The New Iron Armored Insulating Conduit consists of the well-known insulation still further improved within a wrought iron pipe, the thickness of the armor being about 1-16 inch. The outside diameters of commercial wrought iron gas pipe are maintained in the new system; a reduction in the thickness of the wall giving greater inside diameter. It is impossible to draw or force the insulating lining out of the pipe as it is placed there under high pressure, filling up the interstices, and leaving absolutely no air space between the insulation and the iron. The flexibility of the system is maintained by the use of junction boxes, fittings, etc.

The New Iron Armored Insulating Conduit possesses all the qualities of gas or water pipe, and can be installed with equal ease by the use of tools for cutting, threading, etc.

In combination with the Brass Armored Conduit it can be advantageously employed in construction work, under concrete, tiled or mosaic floors, and other like places, without the expensive precautions for protection that are necessary in the use of plain or Brass Armored Conduit.

A saving in labor is effected in installing the New Iron Armored Conduit, inasmuch as it can be installed in advance of the mason work, at the most advantageous time during the construction of a building, without fear of accident to it by masons, mechanics or other workmen.



Code Word.	List No.			List Price.
				Per 100 ft.
<i>Site</i>	24003	$\frac{1}{8}$ in. inside diam.	.675 in. outside diam.	\$ 9.25
<i>Sited</i>	24004	$\frac{1}{4}$ " " "	.84 " " "	11.50
<i>Sitefirst</i>	24005	$\frac{3}{8}$ " " "	1.05 " " "	15.00
<i>Siteh</i>	24006	1 " " "	1.315 " " "	21.00
<i>Siteology</i>	24007	1 $\frac{1}{4}$ " " "	1.66 " " "	27.00
<i>Siteu</i>	24008	1 $\frac{1}{2}$ " " "	1.90 " " "	34.00
<i>Siteer</i>	24009	2 " " "	2.375 " " "	47.00
<i>Siteing</i>	24010	2 $\frac{1}{2}$ " " "	2.875 " " "	67.00

All sizes supplied in ten-foot lengths, with a coupling for each length.

Tubes have slightly tapering threads at both ends, and in making joints these ends should be firmly abutted in center of coupling to secure continuity of insulation. Wherever the tube is cut the burr should be removed by using Butt Reamer.

Prices on all New Iron Armored Conduit and Fittings are subject to change without notice, on account of the fluctuation in prices of iron piping. Contractors are advised to obtain from us latest quotations before placing their orders.

### Interior Conduit—(Continued.)

### New Iron Armored Conduit—(Continued.)

### No. 1519 Iron Covered S Elbow.



No. 24027.

Code Word.	List No.	List Price. Per 100.
<i>Sized</i>	24027 $\frac{7}{8}$ inch, inside diam., 14 inches offset	\$ 33.00
<i>Size</i>	24028 $\frac{3}{4}$ " " 17 " "	41.00
<i>Size</i>	24029 $\frac{3}{4}$ " " 19 " "	62.00
<i>Size</i>	24030 1 " " 23 " "	76.00
<i>Size</i>	24031 $1\frac{1}{4}$ " " 28 " "	96.00
<i>Size</i>	24032 $\frac{7}{8}$ " " 16 " "	34.50
<i>Size</i>	24033 $\frac{3}{4}$ " " 19 " "	42.70
<i>Size</i>	24034 $\frac{3}{4}$ " " 21 " "	64.00
<i>Size</i>	24035 1 " " 25 " "	79.00
<i>Size</i>	24036 $1\frac{1}{4}$ " " 30 " "	100.00
<i>Size</i>	24037 $\frac{7}{8}$ " " 18 " "	35.00
<i>Size</i>	24038 $\frac{3}{4}$ " " 21 " "	44.40
<i>Size</i>	24039 $\frac{3}{4}$ " " 23 " "	66.00
<i>Size</i>	24040 1 " " 27 " "	82.00
<i>Size</i>	24041 $1\frac{1}{4}$ " " 32 " "	104.00



No. 24042.

### No. 1512 Iron Covered Corner Elbow.

<i>Size</i>	24042 $\frac{3}{4}$ inch inside diam., 14 inches offset	33.00
<i>Size</i>	24043 $\frac{3}{4}$ " " 17 " "	41.00
<i>Size</i>	24044 $\frac{3}{4}$ " " 19 " "	62.00
<i>Size</i>	24045 1 " " 23 " "	76.00
<i>Size</i>	24046 $1\frac{1}{4}$ " " 28 " "	96.00
<i>Size</i>	24047 $\frac{3}{4}$ " " 16 " "	34.50
<i>Size</i>	24048 $\frac{3}{4}$ " " 19 " "	42.70
<i>Size</i>	24049 $\frac{3}{4}$ " " 21 " "	64.00
<i>Size</i>	24050 1 " " 25 " "	79.00
<i>Size</i>	24051 $1\frac{1}{4}$ " " 30 " "	100.00
<i>Size</i>	24052 $\frac{3}{4}$ " " 18 " "	35.00
<i>Size</i>	24053 $\frac{3}{4}$ " " 21 " "	44.40
<i>Size</i>	24054 $\frac{3}{4}$ " " 23 " "	66.00
<i>Size</i>	24055 1 " " 27 " "	82.00
<i>Size</i>	24056 $1\frac{1}{4}$ " " 32 " "	104.00

### No. 1416 Long Insulating Elbows.

No. 1416 Elbow corresponds in style with No. 116 Brass Armored Elbow.

INSIDE DIAMETER.		$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	OFFSET.	
Length, 12 inches.	Per 100	\$22.50	\$25.50	\$32.80	\$43.50	\$52.00	$\frac{3}{4}$ inch Elbow,	7 inches.
" 14 "	"	24.00	27.50	35.30	47.00	56.50	$\frac{3}{4}$ " " "	8 $\frac{1}{2}$ "
" 16 "	"	25.50	29.50	37.80	50.50	61.00	1 " " "	10 $\frac{1}{2}$ "
" 18 "	"	27.00	31.50	40.30	54.00	65.50	$1\frac{1}{4}$ " " "	12 "



Interior Conduit—(Continued.)

(New Iron Armored Conduit—Continued.)

No. 1414 Short Insulating Elbows.



No. 21011.

Code Word	List No.	List Price. Per 100.
<i>Situate</i>	24011 $\frac{1}{4}$ inch, inside diameter	\$16.00
<i>Situation</i>	24012 $\frac{3}{8}$ " " " "	18.00
<i>Situated</i>	24013 $\frac{1}{2}$ " " " "	23.00
<i>Situs</i>	24014 1 " " " "	30.00
<i>Siveau</i>	24015 $1\frac{1}{2}$ " " " "	35.00
<i>Steer</i>	24016 $2\frac{1}{2}$ " " " "	60.00
<i>Stirfold</i>	24017 2 " " " "	165.00
<i>Stirpence</i>	24018 $2\frac{1}{2}$ " " " "	240.00

No. 1418 Insulating Outlet Elbows.



No. 21430.

<i>Sutiate</i>	21430 $\frac{1}{4}$ inch	21.00
<i>Sutiation</i>	21431 $\frac{3}{8}$ " "	24.00
<i>Sutiety</i>	21432 $\frac{1}{2}$ " "	28.00

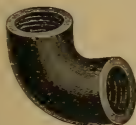
No. 1419 Insulating Outlet Elbows.



No. 21433.

<i>Sutin</i>	21433 $\frac{1}{4}$ inch inside diameter	18.00
<i>Sutinet</i>	21434 $\frac{3}{8}$ " " "	20.00
<i>Sutinflow</i>	21435 $\frac{1}{2}$ " " "	24.00

No. 1580 Insulating Elbow Outlets.



No. 21436.

<i>Sutinspar</i>	21436 $\frac{1}{4}$ inch inside diameter	25.00
<i>Sutinstone</i>	21437 $\frac{3}{8}$ " " "	30.00
<i>Sutinwood</i>	21438 $\frac{1}{2}$ " " "	38.00
<i>Suting</i>	21439 1 " " "	50.00
<i>Stipeany</i>	24019 $1\frac{1}{2}$ " " "	70.00
<i>Stiscope</i>	24020 $2\frac{1}{2}$ " " "	85.00
<i>Stishooter</i>	24021 2 " " "	110.00
<i>Stithly</i>	24022 $2\frac{1}{2}$ " " "	150.00

No. 1581 Insulating Elbow Outlets.



No. 21540.

<i>Stution</i>	21440 $\frac{1}{4}$ inch inside diameter	25.00
<i>Sutire</i>	21441 $\frac{3}{8}$ " " "	30.00
<i>Sutirie</i>	21442 $\frac{1}{2}$ " " "	38.00
<i>Sutiricud</i>	21443 1 " " "	50.00
<i>Sutirrate</i>	24023 $1\frac{1}{2}$ " " "	70.00
<i>Stirlieth</i>	24024 $2\frac{1}{2}$ " " "	85.00
<i>Stizable</i>	24025 2 " " "	110.00
<i>Sizar</i>	24026 $2\frac{1}{2}$ " " "	150.00

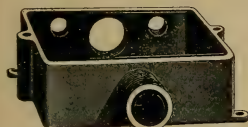


# Iron Armored Insulating Conduit—(Continued.)

## Single Tube System for Direct or Alternating Currents.

### Main Junction and Terminal Box.

If installation is to be made before partition walls are erected, we place the Outlets in order, to clear the thickness of Terra Cotta wall. If orders for special Boxes do not specify "Brick" or "Lath and Plaster," we make them for Brick Work.



No. 32502.

Code Word. List No. List Price  
*Sketcher* 32502 Dimensions: Outside length, 6 inches, width, 3½ inches, depth 3 inches. . . . . \$4.75

We advise the use of Nipples, as they are fitted flush with inside of boxes before they are lined, thus keeping the insulating lining intact, which during installation, is liable to damage by screwing lengths of conduit too far into the Boxes.

### Porcelain Cut-Out for No. 32502.

*Sketchily* 120½ Two Circuit Cut-Out . . . . . 1.80

### Covers for Box No. 32502.

DIMENSIONS OF BOXES OUTSIDE.	FINISH.	DESIGNS.	
		No. 32034.	No. 32036.
6 x 3½	{ Bronze Polished. . . . .	\$0 65	\$0 65
	{ Nickel " . . . . .	55	60
	{ Galvanized. . . . .	55	20
	{ Plain Iron. . . . .	40	

## Double Tube System for Direct Current Only.

### Main Junction Boxes for Double Tube Mains and Double Tube Branches.

They are made so that covers can be used.  
 Junction Boxes for Brick or Terra Cotta Work have the upper rim of holes parallel with and ⅝ inch from rim of box.

Junction Boxes for Lath and Plaster Work have the upper rim of holes parallel with and ¾ inch from rim of box.

*Sketchy* 32002 Two Circuit, Main Line, for Brick; length, 8½ ins.; width, 3½ ins.; depth, 3 ins. . . . . 6.50

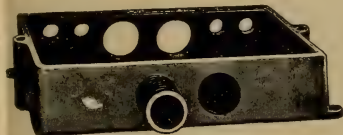
*Skeo* 32011 Two Circuit, Main Line, for Lath and Plaster; length, 8½ ins.; width, 3½ ins.; depth, 3½ ins. . . . . 6.75

### Porcelain Cut-Out for Nos. 32002 and 32011.

*Sketcher* 128½ Two-Circuit Cut-out. . . . . 1.90

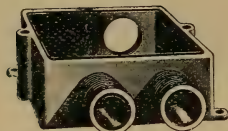
Porcelain, 1 inch thick.

### Metal Covers for Junction Boxes.



No. 32002.

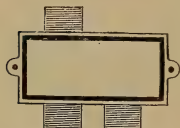
DIMENSIONS OF BOXES INSIDE.	FINISH.	DESIGNS.	
		No. 32062.	No. 32064.
8½ x 3½	{ Bronze Polished. . . . .	\$0 85	\$0 75
	{ Nickel " . . . . .	70	70.
	{ Galvanized. . . . .	75	25
	{ Plain Iron. . . . .	55	55



No. 32590.



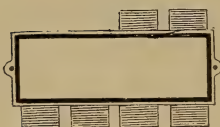
No. 32590—Right Hand.



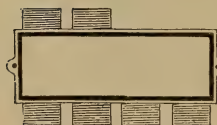
No. 32591—Left Hand.



No. 32091.



No. 32091—Right Hand.



No. 32090—Left Hand.

## Iron Armored Insulating Conduit—(Continued.)

### Feeder Terminal Junction Boxes for Single Tube System.

These Boxes are manufactured on the plans shown for the various circuits as described below; prices include Nipples.

#### Two Wire System.

Dimensions of Boxes inside—Length,  $7\frac{1}{2}$  inches; width,  $3\frac{3}{8}$  inches.

Code Word.	List No.		List Price. Each.
<i>Sky</i>	32590	Right Hand, for Brick Work or Terra Cotta, depth 3 inches .....	\$4.25
<i>Skydur</i>	32591	Left Hand, for Brick Work or Terra Cotta, depth 3 inches .....	4.25
<i>Skycolor</i>	32592	Left Hand, for Lath and Plaster Work, depth $3\frac{1}{2}$ inches .....	4.60
<i>Skyed</i>	32593	Right Hand, for Lath and Plaster Work, depth $3\frac{1}{2}$ inches .....	4.60

Unless otherwise specified, Outlets are made for  $1\frac{1}{4}$ -inch Conduits for feeders, and 1-inch Conduits for distributors.

#### Porcelain Cut-Out for Above.

<i>Skyey</i>	6‡	Two-Wire Feeder Terminal .....	3.50
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### Feeder Terminal Junction Boxes, Double Tube System.

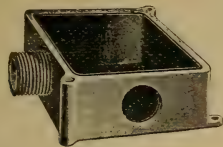
#### Two Wire System.

Dimensions of Boxes inside—Length,  $8\frac{3}{8}$  inches; width,  $3\frac{3}{8}$  inches.

<i>Skyhigh</i>	32090	Left Hand, for Brick Work, depth 3 inches. ....	6.50
<i>Skydark</i>	32091	Right Hand, for Brick Work, depth 3 inches. ....	6.50
<i>Stavedriver</i>	32092	Left Hand, for Lath and Plaster Work, depth $3\frac{3}{8}$ inches .....	6.75
<i>Staveholder</i>	32093	Right Hand, for Lath and Plaster Work, depth $3\frac{3}{8}$ inches .....	6.75

Prices for Boxes include Nipples.

Unless otherwise specified, these Boxes are supplied with Nipples for Risers for 1-inch Conduit; Mains, for  $\frac{3}{4}$ -inch Conduit.



No. 32964.

# Iron Armored Insulating Conduit—(Continued.)

## Feeder, Splicing, or "Pulling-in" Boxes for Single Tube System.

Unless otherwise specified in orders, Feeder Junction Boxes are furnished for  $\frac{1}{4}$ -inch Conduit.

### Two Wire System.

Code Word.	List No.		List Price. Each.
<i>Slaver</i>	32598	For Brick or Terra Cotta, 2 Outlet Nipples.....	4.10
<i>Slaver</i>	32692	" " " 3 " .....	4.75
<i>Slaverly</i>	32696	" " " 2 " .....	4.10
<i>Slaverly</i>	32690	" " " 3 " .....	4.75
<i>Slaverly</i>	32694	" " " 2 " .....	4.10
<i>Slaverly</i>	32698	" " " 3 " .....	4.75

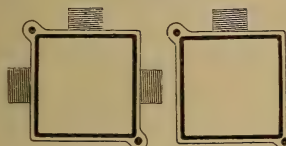
Nos. 32678, 32675, 32665, 32666, 32667, 32668 are for Lath and Plaster Work. For list prices of these add 50 cents to the above list.

Dimensions inside, for Brick or Terra Cotta Work: Length,  $6\frac{1}{2}$  inches; width,  $6\frac{1}{2}$  inches; depth,  $2\frac{3}{4}$  inches. Nipples are placed to allow for  $\frac{1}{8}$  of an inch for Plaster.

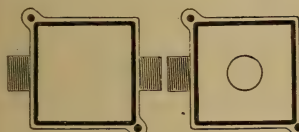
Dimensions inside, for Lath and Plaster Work: Length,  $6\frac{1}{2}$  inches; width,  $6\frac{1}{2}$  inches; depth,  $\frac{3}{4}$  inches. Nipples are placed to allow for  $\frac{1}{4}$  of an inch for Lath and Plaster.

Covers to fit these Boxes are listed on separate page, but are not included in these prices.

In ordering be careful to specify sizes of Conduit to be used, and if Cut-out will be required. Cut-outs for these Boxes are not carried in stock; but will be made to order at short notice, mounted on Marbleized Slate.



Nos. 32690, 32678, 32694 and 32675.



Nos. 32696, 32665, 32692 and 32666.



Nos. 32598, 32667, 32698 and 32668.

## Intersection or Splicing Boxes.

Diameter inside,  $3\frac{1}{4}$  inches. Depth for Brick Work  $1\frac{1}{2}$  inches. Depth for Lath and Plaster  $1\frac{1}{2}$  inches. Thickness of Walls,  $\frac{1}{8}$  inch. This Box is not intended to be used with a Cut-out.

Price includes Nipples.

### For Brick or Terra Cotta Work.

Code Word.	List No.	WITHOUT COVER.	List Price. Each.
<i>Slavic</i>	32252	3 Outlets, 2 Side, 1 Bottom .....	\$1.39
<i>Slavic</i>	32273	2 " 2 Bottom .....	1.18
<i>Slavic</i>	32240	2 " 2 Side .....	1.18
<i>Slavicly</i>	32242	2 " 2 " .....	1.18
<i>Slavicness</i>	32250	2 " 1 " 1 Bottom .....	1.18



Nos. 32240, 32260. Nos. 32242, 32265.



Nos. 32252, 32266. Nos. 32250, 32267. Nos. 32273, 32274.

<i>Slavic</i>	32266	3 Outlets, 2 Side, 1 Bottom .....	1.49
<i>Slavic</i>	32274	2 " 2 Bottom .....	1.28
<i>Slavic</i>	32260	2 " 2 Side .....	1.28
<i>Slavic</i>	32265	2 " 2 " .....	1.28
<i>Slavic</i>	32267	2 " 1 " 1 Bottom .....	1.28

Outlets are placed  $\frac{1}{8}$  inch below rim of Box for Brick or Terra Cotta and  $\frac{1}{4}$  inch for Lath and Plaster Work.



## Iron Armored Insulating Conduit—(Continued.)

## Splicing or "Pulling-in" Boxes.

## Double Tube System.

Dimensions for Brick or Terra Cotta: length,  $6\frac{1}{2}$  inches; width,  $6\frac{1}{2}$  inches; depth,  $2\frac{1}{2}$  inches. For Lath and Plaster: length,  $6\frac{1}{2}$  inches; width,  $6\frac{1}{2}$  inches; depth,  $3\frac{1}{2}$  inches.



Nos. 32172 and 32173.

Nos. 32196,  
32165.Nos. 32192,  
32166.Nos. 32098,  
32167.Nos. 32198,  
32174.Nos. 32194,  
32175.Nos. 32190,  
32176.

## For Brick or Terra Cotta.

Code Word.	List No.		List Price. Each.
<i>Slayer</i>	32196	Two-wire System, without Cover	5.50
<i>Slaziness</i>	32192	" " " "	7.00
<i>Slazy</i>	32098	" " " "	5.50
<i>Slad</i>	32172	" " " "	8.50
<i>Sladling</i>	32194	" " " "	5.50
<i>Slack</i>	32198	" " " "	5.50
<i>Slackly</i>	32190	" " " "	7.00

## For Lath and Plaster.

<i>Slackly</i>	32165	Two-wire System, without Cover	5.75
<i>Slackness</i>	32166	" " " "	7.25
<i>Slackstone</i>	32167	" " " "	5.75
<i>Slack</i>	32173	" " " "	8.75
<i>Slacker</i>	32174	" " " "	5.75
<i>Slackful</i>	32175	" " " "	5.75
<i>Slackily</i>	32176	" " " "	7.25

Unless otherwise specified in orders, Feeder Junction Boxes for Double Tube System are furnished with Nipples.

Cut-outs for these Boxes are made only to order.

## Branch Circuit Junction Boxes.

## Large Size—Complete with Nipples.

## Single Tube System.

## For Brick or Terra Cotta.

<i>Slackiness</i>	33132	3 Outlets, 1 Main, 2 Branch	\$3.75
<i>Slacking</i>	33133	3 " 1 " 2 " R. or L.	3.75
<i>Slackless</i>	33134	3 " 2 " 1 "	3.85
<i>Slacklessly</i>	33136	4 " 2 " 2 "	4.35
<i>Slackly</i>	33142	1 " 1 "	2.75
<i>Slack</i>	33144	2 " 2 "	3.15

## For Lath and Plaster.

<i>Slackch</i>	33138	3 Outlets, 1 Main, 2 Branch	4.00
<i>Slackiness</i>	33139	3 " 1 " 2 "	4.00
<i>Slackly</i>	33140	3 " 2 " 1 "	4.10
<i>Slackfill</i>	33141	4 " 2 " 2 "	4.60
<i>Slackhead</i>	33143	1 " 1 "	3.00
<i>Slackless</i>	33145	2 " 2 "	3.40

Dimensions for Brick or Terra Cotta Work, inside diameter,  $4\frac{1}{8}$  inches; depth,  $2\frac{1}{2}$  inches. For Lath and Plaster Work, inside diameter,  $4\frac{1}{8}$  inches; depth, 3 inches.

## D. P. Porcelain Cut-Out Blocks for Above.

<i>Slack</i>	713 $\frac{1}{2}$	Round Pattern special binding posts	2.05
<i>Slackh</i>	720 $\frac{1}{2}$	" " plain	1.35
<i>Slackhing</i>	712 $\frac{1}{2}$	Square " " "	1.05
<i>Slackht</i>	722 $\frac{1}{2}$	" " special	1.20



No. 33142 and 33143.

Nos. 33132,  
33138.Nos. 33134,  
33140.Nos. 33136,  
33141.Nos. 33133,  
33139.

## Branch Circuit Junction Boxes.

Single Tube System.

Medium Size—Complete with Nipples.

For Brick or Terra Cotta.



No. 32256, 32259.

Code Word.	List No.	WITHOUT COVER.	List Price Each.
<i>Slid</i>	32241	3 Outlets, 2 Main, 1 Branch.....	1.39
<i>Slidden</i>	32247	4 " 2 " 1 " .....	1.64
<i>Slidder</i>	32257	3 " 1 " 2 " .....	1.30
<i>Slide</i>	32251	3 " 1 " 2 " .....	1.39
<i>Slidegroat</i>	32258	3 " 1 " 2 " Right.....	1.39
<i>Slidder</i>	32254	3 " 1 " 2 " Left.....	1.39
<i>Slidcrest</i>	32256	1 " 1 " .....	1.00
<i>Slidceatle</i>	32249	2 " 2 " .....	1.18

For Lath and Plaster Work.

<i>Slitter</i>	32244	3 Outlets, 2 Main, 1 Branch.....	1.49
<i>Sllice</i>	32245	4 " 2 " 2 " .....	1.74
<i>Sllicer</i>	32248	3 " 1 " 2 " .....	1.49
<i>Sloukan,</i>	32253	3 " 1 " 2 " Right.....	1.49
<i>Sloun</i>	32255	3 " 1 " 2 " Left.....	1.49
<i>Slout</i>	32259	1 " 1 " .....	1.10
<i>Slolber</i>	32075	2 " 2 " .....	1.28

Dimensions: For Brick or Terra Cotta Work, inside diameter,  $3\frac{1}{4}$  inches; depth,  $1\frac{1}{2}$  inches. For Lath and Plaster Work, inside diameter,  $3\frac{1}{4}$  inches; depth,  $1\frac{1}{4}$  inches.

The Threaded Outlets for both depth of Boxes are placed so as to allow for the embedding of Conduit  $\frac{5}{16}$  of an inch under the surface of plaster for Terra Cotta or Brick work, and  $\frac{3}{8}$  of an inch for Lath and Plaster.

Porcelain Cut-Outs for Above.

<i>Slolberrr</i>	705 $\frac{1}{2}$	Double Pole Cut-outs for Two Branch Circuits.	.90
<i>Slolberry</i>	706 $\frac{1}{2}$	Double Pole for One Branch Circuit only.....	.65

## Branch Circuit Junction Boxes.

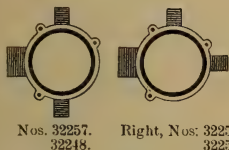
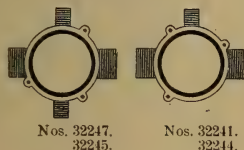
Single Tube System.

Small, Size—Complete with Nipples.

For Brick or Terra Cotta Work.

WITHOUT COVERS.

<i>Slack</i>	32134	3 Outlets, 2 Mains, 1 Branch .....	1.20
<i>Slol</i>	32136	4 " 2 " 2 " .....	1.45
<i>Slougan</i>	32132	3 " 1 " 2 " .....	1.20
<i>Slolke</i>	32133	3 " 1 " 2 " Right.....	1.20
<i>Slol</i>	32137	1 " 1 " 2 " Left.....	1.20
<i>Sloun</i>	32046	1 " 1 " .....	.85
<i>Sloumy</i>	32048	1 " 2 " .....	1.10



## Iron Armored Insulating Conduit—(Continued.)

## Branch Circuit Junction Boxes—(Continued.)

## Small Size—Complete with Nipples.—(Continued.)

## For Lath and Plaster Work.

Nos. 32390,  
32391.Nos. 32392,  
32393.

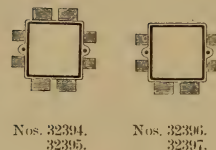
Code Word.	List No.		List Price, Each.
<i>Slathfully</i>	32140	3 Outlets, 2 Mains, 1 Branch	\$1.30
<i>Slathfulness</i>	32141	4 " 2 " 2 "	1.50
<i>Slathhound</i>	32138	3 " 1 " 2 "	1.30
<i>Slotted</i>	32139	3 " 1 " 2 " Right	1.30
<i>Slotted</i>	32142	3 " 1 " 2 " Left	1.30
<i>Slouch</i>	32072	1 " 1 " 2 "	.95
<i>Slouching</i>	32074	1 " 2 " 2 "	1.20

For Brick or Terra Cotta Work, inside diameter,  $2\frac{1}{2}$  inches; depth,  $1\frac{1}{2}$  inches. For Lath and Plaster Work, inside diameter  $2\frac{1}{2}$  inches; depth,  $1\frac{1}{2}$  inches.

For Diagram of Outlets, see Branch Circuit Junction Boxes preceding page.

## Porcelain Cut-Outs for Above.

These Boxes being of small diameter, do not admit of using a Double Pole Cut-out for more than one Branch Circuit.

Nos. 32394,  
32395.Nos. 32396,  
32397.

<i>Slough</i>	710 $\frac{1}{2}$	Double Pole for 1 Circuit, right or left or straight through	.40
<i>Sloughy</i>	707 $\frac{1}{2}$	Double Pole for 1 Circuit, especially for right or left branches	.55

## Branch Circuit Junction Boxes.

## Double Tube System. Complete with Nipples.

## For Brick or Terra Cotta.

Nos. 32398,  
32399.

Code Word.	List No.		List Price, Each.
<i>Sleightful</i>	32390	4 Outlets, 2 Main, 2 Branch	4.50
<i>Sleightily</i>	32392	4 " 2 " 2 "	4.50
<i>Sleightly</i>	32396	6 " 2 " 4 "	6.00
<i>Slender</i>	32400	6 " 2 " 4 "	6.00
<i>Slenderly</i>	32398	6 " 4 " 2 "	6.00
<i>Slenderness</i>	32402	6 " 2 " 4 "	6.00
<i>Slept</i>	32394	8 " 4 " 4 "	7.75

## For Lath and Plaster.

Nos. 32400,  
32401.Nos. 32402,  
32403.

<i>Slenh</i>	32391	4 Outlets, 2 Main, 2 Branch	4.65
<i>Slenhound</i>	32393	4 " 2 " 2 "	4.65
<i>Sleno</i>	32397	6 " 2 " 4 "	6.15
<i>Slenoed</i>	32401	6 " 2 " 4 "	6.15
<i>Sley</i>	32399	6 " 4 " 2 "	6.15
<i>Slibber</i>	32403	6 " 2 " 4 "	6.15
<i>Slice</i>	32395	8 " 4 " 4 "	7.90

Inside Dimensions for Brick and Terra Cotta Work: length,  $4\frac{3}{4}$  inches; width,  $4\frac{3}{4}$  inches; depth,  $2\frac{1}{2}$  inches.

Inside Dimensions for Lath and Plaster Work: length,  $4\frac{3}{4}$  inches; width,  $4\frac{3}{4}$  inches; depth, 3 inches.

## Porcelain Cut-Out for Above.

<i>Slicer</i>	717 $\frac{1}{2}$	Complete with 6 Fuse Holders	2.05
<i>Slick</i>	716 $\frac{1}{2}$	Fitted with Binding Screws, no Fuse Holders	.90
<i>Slicking</i>	695 $\frac{1}{2}$	Fuse Holder, complete, extra heavy terminal, no fuse	.20
<i>Slickness</i>	690 $\frac{1}{2}$	Fuse Holder, complete, regular terminal, no fuse	.20

# Iron Armored Insulating Conduit—(Continued.)

## Outlet Boxes.

### With Fixture Support for Electric Only—Single Tube System.

#### Small Size.

Code Word.	List No.	List Price. Each.
<i>Sloop</i>	<b>32046</b> Outlet Box, 2½ inches diameter, 1½ inches deep, and Cover, No. 527 .....	<b>\$1.40</b>
<i>Slop</i>	<b>32072</b> Outlet Box, 2½ inches diameter, and Cover, 524 .....	<b>1.40</b>

For Lath and Plaster add 8c. on 2½-inch and 10c. on 3½ inch. Lath and Plaster Boxes are made 1½ inches deep.

#### Porcelain Cut-Outs for Above.

<i>Slope</i>	<b>710½</b> Outlet or Tap Cut-out, without leads .....	<b>.40</b>
<i>Slopesness</i>	<b>770½</b> Double Pole Porcelain Cut-out, without leads ....	<b>.65</b>

#### Outlet Boxes. Large Size.

<i>Slopesrise</i>	<b>32246</b> Outlet Box, 3½-inch diameter, and Cover, No. 528 .....	<b>1.60</b>
<i>Sloping</i>	<b>32073</b> Outlet Box, 3½-inch diameter, and Cover, No. 525 .....	<b>1.60</b>

#### Porcelain Cut-Outs for Above.

<i>Slopingly</i>	<b>705½</b> Double Pole Cut-Out for Two Branch Circuit... ..	<b>.90</b>
<i>Sloppiness</i>	<b>706½</b> Double Pole for One Branch Circuit only, right " or left .....	<b>.65</b>

#### Outlet Boxes.

<i>Sloppy</i>	<b>32075</b> Outlet Box, 2½ inches diameter, with Cover ....	<b>1.40</b>
<i>Slopy</i>	<b>32079</b> Outlet Box, 3½ inches diameter, with Cover ....	<b>1.55</b>

The Box is made for Brick Work. For Lath and Plaster Work add 10 cents to the above list. The ordinary form of "Bug" Cut-out can be used in these Boxes.

## Outlet Boxes.

### Outlet Box, Cover and Fixture Support—For Electric Only.

#### Double Tube System.

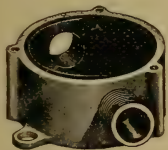
Dimensions of Boxes inside—Length, 3½ inches; width, 3½ inches.

<i>Slot</i>	<b>32478</b> Outlet Box for Brick or Terra Cotta Work, depth 1½ inches .....	<b>2.15</b>
<i>Slot</i>	<b>32479</b> Outlet Box for Brick or Terra Cotta Work, depth 2 inches .....	<b>2.25</b>
<i>Slot</i>	<b>32480</b> Outlet Box for Lath and Plaster Work, depth 2 inches .....	<b>2.20</b>
<i>Slotful</i>	<b>32481</b> Outlet Box for Lath and Plaster Work, depth 2½ inches .....	<b>2.30</b>

The Fixture Support is threaded to receive a ½-inch (inside) Brass Insulating Joint. When necessary to fuse in this Box the regular Bug Cut-out can be employed. Covers are not included in above prices. Price of Cover 65 cents each.



Nos. 32046 and 32072.



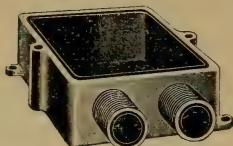
No. 32246 and 32073.



No. 32075 and 32079.



No. 32478.



No. 32496.

## Iron Armored Insulating Conduit—(Continued.)

### Outlet Boxes.

Outlet Box, Cover and Fixture Support—For Electric Only.  
(Continued.)

#### Double Tube System.

Dimensions of Boxes inside—Length,  $3\frac{1}{2}$  inches, width,  $2\frac{1}{4}$  inches.

Code Word.	List No	List Price Each.
<i>Smarten</i>	<b>32496</b>	Outlet Box for Brick or Terra Cotta Work, depth $1\frac{1}{4}$ inches. .... <b>\$1.90</b>
<i>Smartle</i>	<b>32497</b>	Outlet Box for Brick or Terra Cotta Work, depth 2 inches ..... <b>2.00</b>
<i>Smartly</i>	<b>32498</b>	Outlet Box for Lath and Plaster Work, depth 2 inches ..... <b>1.95</b>
<i>Smartness</i>	<b>32499</b>	Outlet Box for Lath and Plaster Work, depth $2\frac{1}{4}$ inches ..... <b>2.05</b>

Extra Outlets for these Boxes will be supplied to order at the following list price: 22 cts. each.

Covers are not included in above prices. Price of Cover, 60 cts. Unless otherwise specified in orders, Cover is supplied with Threaded Nipple for  $\frac{1}{4}$ -inch (Brass) Insulating Joint or Coupling.

#### Porcelain Cut-Outs for Above.

No. 770 $\frac{1}{2}$ , Porcelain Cut-Out, designed for a Ceiling Pendant, can be used in a side Outlet Box for Portable Fixture or Fan Motor. The Cut-Out is made in two parts. The base is supplied with heavy terminals, forming the contact pieces, into which are placed the Binding Screws. Fuse Leads are arranged on the Porcelain plug, which can be removed when fusing. Contacts are sliding, connections quickly and easily made, and the Cut-out is adapted to all  $2\frac{1}{2}$ -inch boxes. The price does not include Box.

<i>Smartneed</i>	<b>770<math>\frac{1}{2}</math></b>	Double Pole Porcelain Cut-out, without leads. . . <b>.65</b>
<i>Smursh</i>	<b>710<math>\frac{1}{2}</math></b>	Outlet or Tap Cut-out. .... <b>.40</b>

## Combination Gas and Electric Branch Circuit Box and Cut-Out.

### Single Tube System.

This Box is designed especially for Hotels, Office Buildings, Apartment Houses and other Fire-proof Buildings, where the Feeders are run between the Terra Cotta and floor boards, direct from the Cut-out Cabinets or Junction Boxes, to a center of distribution. This center may be located at the largest or most convenient electrolier of a suite or section of rooms, and the Box attached thereto. It will then supply the electrolier and two branches which are run on ceiling for side lights. The box, being but five inches in diameter, admits the use of an ordinary size fixture shell.

Cut-out No. 715 $\frac{1}{2}$  has Binding Posts for supply, that will carry Conductors up to No. 4 B. & S. Gauge. The Branch Terminals have been tested up to fifteen amperes.

If over ten lights are required for an electrolier, we supply Porcelain Fuse Holders No. 695 $\frac{1}{2}$ , having double the carrying capacity and fit any of the Fuse Terminals. The Cut-out will fuse two Branch Circuits, which may be taken out at either side, or at right angles; at the same time fusing fixture.

Price includes Nipples.



Iron Box No. 30917.



### Iron Armored Insulating Conduit—(Continued.)



No. 30913. No. 30914. No. 30915.



No. 30916. No. 30917.

### Combination Gas and Electric Branch Circuit Box and Cut-out Single Tube System.—(Continued.)

#### Iron Box—Lined.

Diameter,  $5\frac{1}{4}$  inches; depth,  $2\frac{1}{4}$  inches. Diameter, Gas Outlet,  $1\frac{1}{8}$  inches. Diameter, Electric Outlet (inside)  $1\frac{1}{8}$  inches.

Code Word.	List No.	List Price Each.
<i>Slyboots</i>	30913 1 Main, 1 Outlet	\$1.75
<i>Slyly</i>	30914 1 " 2 "	2.25
<i>Slyness</i>	30915 1 " 2 "	2.25
<i>Smack</i>	30916 1 " 2 "	2.25
<i>Smacking</i>	30917 1 " 3 "	2.75

Other sizes of Outlets and combinations made to order.

#### Porcelain Cut-Out.

Diameter,  $4\frac{1}{2}$  inches. Height, with Adjustable Fuses,  $1\frac{1}{2}$  inches.

<i>Smalling</i>	715 $\frac{1}{2}$	Complete, with 6 Fuse Holders	2.05
<i>Smallish</i>	700 $\frac{1}{2}$	Copper-tipped Fuses, 3 or 6 amperes	.05



No. 32486. No. 32488. No. 32490.



No. 32492. No. 32494.

### Combination Gas and Electric Branch Circuit Box and Cut-Out.

#### Branch Junction Box.—Double Tube System.

Diameter,  $5\frac{1}{4}$  inches; depth,  $2\frac{1}{4}$  inches. Diameter Gas Outlet,  $1\frac{1}{8}$  inches.

<i>Smallness</i>	32486	2 Mains, 2 Outlets	2.25
<i>Smallbox</i>	32488	2 " 4 "	2.75
<i>Smallts</i>	32490	2 " 4 "	2.75
<i>Smallty</i>	32492	2 " 4 "	2.75
<i>Smallt</i>	32494	2 " 6 "	3.25

### Combination Gas and Electric Outlet Box with Cut-Out.

#### Single Tube System.

This Box is designed to be used for side Outlets on walls or partitions The diameter being small, a 4-inch Fixture Shell will cover it. Cover admits of ready access to Box, and when in place it effectually closes the Outlet against moisture. Cut-out No. 718 $\frac{1}{2}$  is designed to fuse two Branch Circuits, is fitted with the adjustable Fuse Holders, or will be supplied with Binding Screws only, so that the ordinary copper-tipped fuse may be employed.

If it is desired to fuse the fixture at which the box is located, the cover can be omitted, the ends of conduit sealed with compound, and the work thus made tight.

Specify in orders the size for Mains and Branches.

#### Iron Box and Cover.

<i>Smalltee</i>	30911	As illustrated. Dimensions: Diameter, $3\frac{3}{8}$ inches depth, $1\frac{1}{8}$ inches	1.60
<i>Smarragline</i>	30912	Plain Iron Cover, Insulated Lining	.25

#### Porcelain Cut-Out.

<i>Smarragrite</i>	718 $\frac{1}{2}$	Complete with four Adjustable Safety Fuses	1.65
<i>Smart</i>	719 $\frac{1}{2}$	Cut-Out, without Adjustable Fuses, but having Binding Screws for Copper-tip Fuses	.85



No. 32495.

## Iron Armored Insulating Conduit—(Continued.)

### Combination Gas and Electric Outlet Box with Cut-Out.

—(Continued.)

#### Double Tube System.

##### Iron Box and Cover.

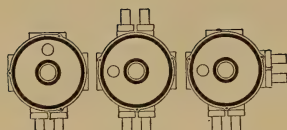
Code Word.	List No.		List Price. Each.
<i>Smasher</i>	30920	Diameter, $3\frac{3}{8}$ inches; depth, $1\frac{1}{2}$ inches. With six Nipples	\$2.25
<i>Smatch</i>	30912	Plain Iron Cover, Insulated Lining	.25

#### Porcelain Cut-Out.

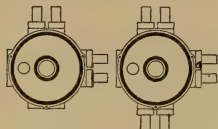
<i>Smatter</i>	718 $\frac{1}{2}$	Complete, with four Adjustable Safety Fuses.	1.65
<i>Smatterer</i>	719 $\frac{1}{2}$	Cut-out, without Adjustable Fuses, but having Binding Screws for Copper-tipped Fuses.	.85

## Combination Gas and Electric Ceiling Outlet and Branch Circuit Boxes.

### Single Tube Iron—Double Tube Brass.



No. 30504      No. 30505.      No. 30506.



No. 30507.      No. 32508.

The Box is of Iron, Insulated and designed to be placed at a chandelier outlet, and fed from the floor above by a single tube of Iron Armored Conduit  $\frac{1}{2}$  of an inch inside diameter or less. Owing to the position and necessity of sinking the Box into the Terra Cotta ceiling, no threaded joint can be made, but an iron sleeve one inch in height is provided, into which the Conduit is inserted. The Center or Gas Outlet will admit the use of  $\frac{1}{2}$ -inch (inside diameter) gas pipe. The short Iron Nipples are threaded for  $\frac{3}{8}$ -inch coupling, on to which can be screwed combination coupling for  $\frac{7}{8}$  or  $\frac{1}{2}$ -inch Brass Armored Conduit.

Outside Dimensions—Diameter,  $5\frac{1}{4}$  inches; depth,  $2\frac{1}{4}$  inches. Diameter Gas Outlet,  $1\frac{1}{8}$  inches. Diameter Electric Outlet (inside),  $1\frac{1}{8}$  inches.

Diameter Porcelain Cut-out,  $4\frac{3}{8}$  inches; Height, with Adjustable Fuses,  $1\frac{1}{2}$  inches.

<i>Smattering</i>	30504	1 Main, 1 Electroliner and 2 Branches.	2.05
<i>Smear</i>	30505	1 " 1 " 4 "	2.75
<i>Smear dub</i>	30506	1 " 1 " 4 "	2.75
<i>Smear y</i>	30507	1 " 1 " 4 "	2.75
<i>Smear th</i>	30508	1 " 1 " 6 "	3.45

## Combination Gas and Electric Outlet Box and Cut-Out.

### Double Tube Iron—Double Tube Brass.

#### For Direct Current Only.

##### Iron Box and Cover.

<i>Smectite</i>	32920	With four $\frac{3}{8}$ -inch Combination Nipples and two $\frac{3}{8}$ -inch Iron Insulated Nipples without cover	2.65
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Dimensions: Diameter,  $3\frac{3}{8}$  inch; depth,  $1\frac{1}{2}$  inch.

<i>Smatch</i>	30912	Plain Iron Cover, Insulated Lining	.25
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## Iron Armored Insulating Conduit—(Continued.)

## Combination System.



Using Both Iron and Brass Armored Conduit.

Illustration showing the application of the Combination Coupling or "Connecting Link" between the two systems—Iron Armored Conduit and Brass Armored Conduit. The union if properly made, by the use of white lead on the iron threads and the crimping tool on the brass coupling, will be a perfect joint.

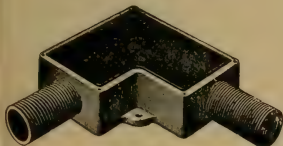
The illustration shows a Cross Section of Iron Armored Insulating Conduit and Brass Armored Conduit; the union being properly made. Both ends of insulation abut.

The demand for this system has arisen principally from its flexibility; also from the fact that the diameter of the Brass Armored Conduit is less than that of the Iron Armored. In modern fire-proof structures, the thickness of plaster ordinarily used on walls will always cover the  $\frac{1}{16}$  inch Brass Conduit, and usually the  $\frac{3}{8}$  inch, without having to channel the walls. This channeling being a considerable item in the general expense of the installation, the labor thus saved is an important consideration where the specifications do not provide for "Furring" or a sufficient thickness of plaster to cover the Iron Armored Conduit.

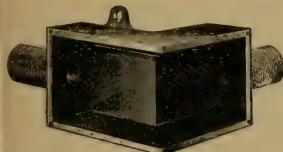
Combination Couplings are necessary in connecting the Brass Armored Double Tube System to the Single Tube Iron System, at Junction Boxes, Cut-out Cabinets, etc., and when the Feeders or Risers are run in separate Brass Armored Conduits on account of their size, or to avoid induction when the Alternating System is employed.

No. 205 $\frac{1}{2}$ .  
Combination Coupling.

No. 32640.



No. 32641.



No. 32642.

## Combination Coupling.

Code Word.	List No.		List Price. Each.
<i>Saunt</i>	205 $\frac{1}{2}$	$\frac{3}{8}$ -inch Iron Nipple to $\frac{3}{8}$ -inch Brass Coupling	\$0.10
<i>Saunt</i>	206 $\frac{1}{2}$	$\frac{3}{8}$ -inch " " $\frac{3}{8}$ -inch "	.12
<i>Saunt</i>	207 $\frac{1}{2}$	$\frac{3}{4}$ -inch " " $\frac{3}{4}$ -inch "	.14
<i>Saunt</i>	208 $\frac{1}{2}$	1-inch " " 1-inch "	.17
<i>Saunt</i>	209 $\frac{1}{2}$	1 $\frac{1}{4}$ -inch " " 1 $\frac{1}{4}$ -inch "	.21
<i>Saunt</i>	210 $\frac{1}{2}$	1 $\frac{1}{2}$ -inch " " 1 $\frac{1}{2}$ -inch "	.27

## Angle and Corner Insulating Boxes.

## Single Tube System.

## For Splicing or "Pulling-in" Conductors.

<i>Saunt</i>	32640	Iron Insulated Box, with Two Nipples.....	\$1.85
<i>Saunt</i>	32641	Iron Insulated Box, " " .....	1.85
<i>Saunt</i>	32642	Iron Insulated Box, " " .....	1.85

Above prices include Plain Iron Covers and Screws fitted; also Nipples. Specify size of Nipples.

**Iron Armored Insulating Conduit—(Continued.)****Angle and Corner Insulating Boxes—(Continued.)****Single Tube System—(Continued.)****Dimensions.**

No. 32640, inside, each angle, length, 3 ins.; width, 2½ ins.; depth, 1½ ins.	
No. 32642, " " " 3 " " 2½ " " 1½ "	
No. 32641, " " " 3½ " " 2½ " " 1½ "	

The above Boxes are made for Brick or Terra Cotta Work, the Nipples being placed  $\frac{1}{8}$  of an inch from rim of Box, to allow for plaster to cover Conduit. Covers are made of thin iron, and extend  $\frac{1}{4}$  of an inch over rim of Boxes.

**Double Tube System—Double Iron.****For Splicing or "Pulling-in" Conductors.**

Code Word.	List No.		List Price. Each.
<i>Snouty</i>	32643	Iron Insulated Boxes, with four Nipples..	\$2.25
<i>Snaw</i>	32644	" " " " " " " " " " " "	2.25
<i>Snawball</i>	32645	" " " " " " " " " " " "	2.25

The above prices include Plain Iron Cover and Screws fitted. These Covers extend  $\frac{1}{4}$  inch over the rim of Box.

For Boxes with  $\frac{5}{8}$  inch Nipples, add 10 cents to above list prices for each Nipple.

**Dimensions.**

No. 32643 Inside each angle, length, 3 ins.; width, 2½ ins.; depth, 1½ ins. Same style as No. 32642.

No. 32644 Inside each angle, length, 3 ins.; width, 2½ ins.; depth, 1½ ins. Same style as No. 32640.

No. 32645 Inside each angle, length, 3½ ins.; width, 2½ ins.; depth, 1½ ins. Same style as No. 32641.

These Boxes are made for Brick or Terra Cotta work, the Nipples being placed  $\frac{1}{8}$  of an inch from rim of Box to allow plaster to cover Conduit.

**Single Tube Iron—Double Tube Brass.****For Direct or Alternating Currents.**

<i>Snomeding</i>	30646	Iron Insulated Box, with one Iron and two Combination Couplings fitted. Same style as No. 32642 .....	2.25
<i>Snawdeep</i>	30647	Iron insulated Box, with one Iron and two Combination Couplings fitted. Same style as No. 32640 .....	2.25
<i>Snomedrift</i>	30648	Iron Insulated Box, with one Iron and two Combination Couplings fitted. Same style as No. 32641 .....	2.25

The above prices include plain iron covers and screws—fitted.

If  $\frac{5}{8}$ -inch brass Conduit is to be used please state so in ordering.

**Iron Armored Insulating Conduit—(Continued.)****Angle and Corner Insulating Boxes—(Continued.)****Double Tube Iron—Double Tube Brass.**

Code Word.	List No.	List Price. Each.
<i>Snoodrop</i>	<b>30649</b> Iron Insulated Box, with two Iron and two Combination Couplings fitted. Same style as No. 32642 .....	<b>2.45</b>
<i>Snoodfluke</i>	<b>30650</b> Iron Insulated Box, with two Iron and two Combination Couplings fitted. Same as style No. 32640 .....	<b>2.45</b>
<i>Snoodfleck</i>	<b>30651</b> Iron Insulated Box, with two Iron and two Combination Couplings fitted. Same style as No. 32641 .....	<b>2.45</b>

The above prices include Iron Covers and screws fitted.

If  $\frac{5}{8}$ -brass Conduit is to be used, please state so in ordering.

The above Boxes are made for Brick and Terra Cotta Work, Nipples being placed  $\frac{5}{16}$  inch from Rim of Box.

**Switch Box for Cutter and Other Flush Switches.****For Single Tube System.**

The Box, as illustrated, is designed for a Single Pole Flush Switch. We manufacture these Boxes for all makes of Flush Switches, either Single Pole, Double Pole and for Three or Four Wires.

Where the installation is to be made before the partition walls are erected, we place the Outlets near the rear edge, on top, to clear the front wall of the terra cotta brick.

<i>Snoodflood</i>	<b>30981</b> Box with one Nipple.....	<b>\$1.00</b>
<i>Snoodgause</i>	<b>30986</b> Gang Switch Boxes. Prices on application.	

**For Double Tube System—Iron Armored.**

<i>Snoodless</i>	<b>30983</b> Box, with two Nipples .....	<b>1.25</b>
<i>Snoodgause</i>	<b>30989</b> Gang Switch Box. Prices on application.	

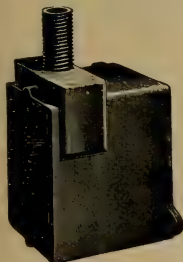
**For Double Tube System—Brass Armored.**

<i>Snoodshoe</i>	<b>30984</b> Box with two Combination Nipples.....	<b>1.45</b>
Outside Dimensions: Height, 4 inches; Width, $2\frac{1}{4}$ inches; Depth, $3\frac{1}{4}$ inches.		

<i>Snoodstorm</i>	<b>30987</b> Gang Switch Boxes. Prices on application.	
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Outlets are placed  $\frac{5}{8}$  of an inch from rim for Brick or Terra Cotta work and  $\frac{3}{4}$  of an inch for Lath and Plaster.

Switches extra.



No. 30981.



## Iron Armored Insulating Conduit—(Continued.)

### Combination Gas and Electric Side Outlet Box.



Nos. 30682, 30683.

#### Single Tube System

Code Word.	List No.		List Price. Each.
<i>Smooth</i>	30681	1 Outlet for $\frac{1}{2}$ -inch Conduit.....	\$1.50
<i>Smooth</i>	30683	2 " " $\frac{3}{8}$ " " .....	1.55

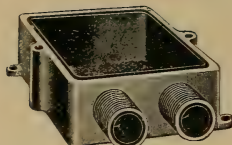
Unless otherwise specified all Boxes will be tapped for  $\frac{3}{8}$ -inch gas pipe.

These Boxes are designed to be used for side outlets on walls or partitions. The diameter being small, a  $\frac{3}{4}$ -inch fixture shell will cover them. The hole on back of Box is tapped to receive a  $\frac{3}{8}$ -inch gas pipe. The thread on gas pipe must be cut back so that the pipe will project through the Box a sufficient length to allow an insulating joint to be screwed on. All Boxes of this type are porcelain lined.

Outlets are placed so as to leave  $\frac{5}{16}$  of an inch for the hard finish of walls, between the outlets and front rim of Box for brick and terra cotta work, and  $\frac{1}{4}$  of an inch for lath and plaster.

### Outlet or Switch Box.

#### Double Tube System Complete with Nipples.



No. 32404 and 32407.

Code Word.	List No.		List Price. Each.
<i>Smooth</i>	32404	Box for Terra Cotta or Brick work, 2 outlets... ..	\$1.15
<i>Smooth</i>	32405	" " " " 4 " " .....	1.70
<i>Smooth</i>	32406	" " " " 4 " " .....	1.70
<i>Smooth</i>	32407	" Lath and Plaster " 2 " " .....	1.25
<i>Smooth</i>	32408	" " " 4 " " .....	1.80
<i>Smooth</i>	32409	" " " 4 " " .....	1.80

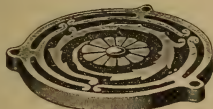
Inside dimensions for Brick or Terra Cotta: Length  $2\frac{1}{2}$  in., width  $2\frac{1}{2}$  in., depth  $1\frac{1}{2}$  in.

Inside dimensions for Lath and Plaster: Length  $2\frac{1}{2}$  in.; width  $2\frac{1}{2}$  in., depth  $2\frac{1}{4}$  in.

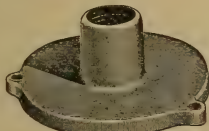
Outlets are placed  $\frac{5}{16}$  of an inch from rim of Box for Brick and Terra Cotta work and  $\frac{1}{4}$  of an inch for Lath and Plaster.

This Box, being but  $2\frac{1}{2}$  inches square, is especially adapted for use with flush switches.

Nos. 32404.  
32407.Nos. 32405.  
32408.Nos. 32406.  
32409.



No. 21515.



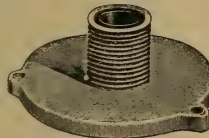
No. 21528.



No. 21534.



No. 21532.



No. 21530.



No. 21537.



No. 21540.

## Interior Conduit—(Continued.)

## Iron Armored Conduit—(Continued.)

### Covers for Iron Armored Branch Junction or Outlet Boxes.

Code Word.	List No.	List Price. Each.
<i>Scuffold</i>	21515 537, Bronzed Polished Covers for 2½ in. Round Box.	\$0.35
<i>Scagliola</i>	21516 541, Nickeled " " 2½ " " "	.30
<i>Scalable</i>	21517 538, Bronzed " " 3½ " " "	.40
<i>Scalade</i>	21518 546, Nickeled " " 3½ " " "	.35
<i>Scald</i>	21519 547, Bronzed " " 2½ " " "	.55
<i>Scaldic</i>	21512 548, Nickeled " " 2½ " " "	.50
<i>Scale</i>	21521 549, Bronzed " " 3½ " " "	.60
<i>Scalene</i>	21522 551, Nickeled " " 3½ " " "	.55
<i>Scaliness</i>	21523 539, Bronzed " " 4½ " " "	.60
<i>Scall</i>	21524 543, Nickeled " " 4½ " " "	.55
<i>Scallion</i>	21525 521, Plain Cover for 2½ inch Round Box.	.15
<i>Scallop</i>	21526 522, " " " 3½ " " " "	.20
<i>Scalloped</i>	21527 536, " " " 4½ " " " "	.30
<i>Scalp</i>	21528 524, Cover with Nipple, Female Thread, for 2½ inch Round Box.	.55
<i>Scalpet</i>	21529 525, Cover with Nipple, Female Thread, for 3½ inch Round Box.	.60
<i>Scaly</i>	21530 527, Cover with Nipple, Male Thread, for 2½ inch Round Box.	.50
<i>Scamble</i>	21531 528, Cover with Nipple, Male Thread, for 3½ inch Round Box.	.60
<i>Scambler</i>	21532 530, Cover with Rubber Bushing for 2½ in. Round Box.	.35
<i>Scammony</i>	21533 531, Cover with Rubber Bushing for 3½ in. Round Box.	.40
<i>Scamp</i>	21534 533, Cover for Receptacle for 2½ inch Round Box.	.20
<i>Scamper</i>	21535 534, " " " " 3½ " " "	.25
<i>Sketch</i>	24057 912, Plain Iron Cover, insulated lining	.25

Covers for all Boxes have an Insulating Lining.

## Tools for Iron Armored Conduit.

### Comstock Pipe Cutters.

<i>Scandul</i>	21537	Cuts from ¾ inch to 1 inch.	1.20
<i>Scandalize</i>	21538	" 1 " 2 "	1.60
<i>Scandalous</i>	21539	" 1 " 2½ "	2.70

### Butt Reamer.

This Reamer is fitted for use with ordinary brace. It should be used after a cut has been made to remove the "burr" from Iron Armor and to true up the end of Conduit. This operation should be performed before the thread is cut.

<i>Scandalously</i>	21540	Size of Conduit ¾ to 1½ inch	1.50
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## Interior Conduit—(Continued.)

### Brass Armored Conduit.

#### For Direct and Alternating Currents.

This is plain conduit with a brass armor or covering drawn upon it. We furnish this tube for better protection against mechanical injury and the destructive action of the alkalis of cement, where used under tile floors or in like exposed places. When polished it will be found unequalled for surface work in the matter of finish and accessibility.



Code Word.	List No.		List Price, Per 100 Ft.
<i>Concrete</i>	3981	$\frac{1}{8}$ inch, inside diameter.....	\$ 4.95
<i>Concrete</i>	3982	$\frac{1}{4}$ " " ".....	5.68
<i>Concur</i>	3983	$\frac{1}{2}$ " " ".....	6.88
<i>Concurrence</i>	3984	$\frac{3}{4}$ " " ".....	7.90
<i>Concurrence</i>	3985	1 " " ".....	9.28
<i>Concurrent</i>	3986	1 $\frac{1}{4}$ " " ".....	12.22
<i>Concurring</i>	3987	1 $\frac{1}{2}$ " " ".....	14.95
<i>Concuss</i>	3988	1 $\frac{3}{4}$ " " ".....	25.25



No. 21541.

### No. 114 Brass Armored Elbow.

		Inside Diameter Inches.	Outside Diameter Inches.	Radius Inches.	Length over all Inches.	Per 100 Pieces.
<i>Scantest</i>	21541	$\frac{1}{8}$	.495	3 $\frac{1}{2}$	4 $\frac{1}{2}$	6.60
<i>Scansion</i>	21542	$\frac{1}{4}$	.625	4	5 $\frac{1}{2}$	8.00
<i>Sensorsial</i>	21543	$\frac{1}{2}$	.730	4 $\frac{1}{2}$	6	10.20
<i>Scant</i>	21544	$\frac{3}{4}$	.792	4 $\frac{1}{2}$	6 $\frac{1}{2}$	11.80
<i>Scantly</i>	21545	1	1.000	6	7 $\frac{1}{2}$	15.60
<i>Scantiness</i>	21546	1	1.230	9	11 $\frac{1}{2}$	27.85
<i>Scantling</i>	21547	1 $\frac{1}{4}$	1.540	10	13 $\frac{1}{2}$	38.35
<i>Scantly</i>	21548	1 $\frac{1}{2}$	1.875	12	15 $\frac{1}{2}$	57.10



No. 21549.

### No. 116 Brass Armored Long Elbow.

		Inside Diameter Inches.	Outside Diameter Inches.	Radius Inches.	Length over all Inches.	Per 100 Pieces.
<i>Scantness</i>	21549	$\frac{1}{8}$	.490	3 $\frac{1}{2}$	17 $\frac{1}{2}$	16.00
<i>Scanty</i>	21550	$\frac{1}{4}$	.625	4	17 $\frac{1}{2}$	17.75
<i>Scap</i>	21551	$\frac{1}{2}$	.730	4 $\frac{1}{2}$	18	18.75
<i>Scapement</i>	21552	$\frac{3}{4}$	.792	4 $\frac{1}{2}$	18	20.25
<i>Scapula</i>	21553	1	1.000	6	19	26.25
<i>Scapular</i>	21554	1	1.230	8 $\frac{1}{2}$	23	41.00
<i>Scapulary</i>	21555	1 $\frac{1}{4}$	1.540	9 $\frac{1}{2}$	26	55.00



No. 1404.

Interior Conduit—(Continued.)

Brass Armored Conduit—(Continued.)

No. 114½ Brass Covered Short Elbow, with Attached Couplings.

Code Word.	List No.		List Price. Per 100.
<i>Immoderate</i>	1404	$\frac{3}{8}$ inch, inside diameter.....	\$ 18.70
<i>Immodest</i>	1405	" " " " .....	21.50
<i>Immodestly</i>	1406	" " " " .....	25.60
<i>Immoderate</i>	1407	" " " " .....	30.00
<i>Immoderate</i>	1408	" " " " .....	43.00
<i>Immoderate</i>	1409	1 " " " " .....	63.00

No. 116½ Brass Covered Long Elbow, with Attached Couplings.

<i>Immoderate</i>	1417	$\frac{5}{8}$ inch, inside diameter.....	26.00
<i>Immoderate</i>	1418	" " " " .....	28.75
<i>Immoderate</i>	1419	" " " " .....	31.75
<i>Immoderate</i>	1420	" " " " .....	36.25
<i>Immoderate</i>	1421	" " " " .....	49.25
<i>Immoderate</i>	1422	1 " " " " .....	71.00

No. 117½ Brass Covered S Elbow, with Attached Couplings.

<i>Immoderate</i>	1430	$\frac{3}{8}$ inch, inside diameter.....	25.75
<i>Immoderate</i>	1431	" " " " .....	28.25
<i>Immoderate</i>	1432	" " " " .....	33.00
<i>Immoderate</i>	1433	" " " " .....	38.50
<i>Immoderate</i>	1434	" " " " .....	50.50
<i>Immoderate</i>	1435	1 " " " " .....	64.00

No. 115½ Brass Covered T, with Attached Couplings.

<i>Igniting</i>	1443	Mains $\frac{3}{8}$ inch, branch $\frac{1}{8}$ inch.....	90.75
<i>Ignition</i>	1444	" " " " .....	95.00
<i>Ignoble</i>	1445	" " " " .....	100.00
<i>Illbred</i>	1446	" " " " .....	114.00
<i>Illicit</i>	1447	" " " " .....	132.00
<i>Illlicitly</i>	1448	" 1 " " " " .....	167.00



No. 21556.

## Interior Conduit—(Continued.)

## Brass Armored Conduit—(Continued.)

## No. 117 Brass Armored S Elbows.

Code Word.	List No.	Inside Diameter inches.	Outside Diameter inches.	Offset inches.	Length over all inches.	List Price Per 100.
<i>Scarf</i>	21556	$\frac{7}{16}$	.495	4	9	15.75
<i>Scarfed</i>	21557	$\frac{3}{8}$	.625	4	10½	17.25
<i>Scarfing</i>	21558	$\frac{1}{2}$	.730	4	11	20.00
<i>Scarce</i>	21559	$\frac{5}{8}$	.792	4	11	22.50
<i>Scarcelly</i>	21560	$\frac{3}{4}$	1.000	4	11½	27.50
<i>Scariness</i>	21561	1	1.230	4	16	34.00
<i>Scarclity</i>	21562	1¼	1.540	4	17	50.00



No. 21563.

## Terminal or Outlet Elbows.

These Elbows are made with a sharp bend and are especially adapted for Fixture Outlets. These Elbows are trimmed back  $\frac{3}{8}$  of an inch; this trimming will be done without extra charge when so ordered, or can be readily accomplished by use of Universal Trimmer.

The radii of curves in these Elbows are much smaller than No. 21541, and they will be found better adapted for use at outlet.

## No. 118 For Brick and Tile Work.

		Diameter inches.	Offset inches.	Length inches.	
<i>Scarf</i>	21563	$\frac{1}{2}$	1½	5¼	10.30
<i>Scarceiron</i>	21564	$\frac{1}{2}$	1½	5¼	11.35
<i>Scarf</i>	21565	$\frac{3}{4}$	1½	7	12.40
<i>Scarfed</i>	21566	$\frac{1}{2}$	1¾	8¼	12.60
<i>Scarving</i>	21567	$\frac{3}{8}$	2	9	13.70
<i>Scarfskin</i>	21568	$\frac{3}{4}$	2¼	10½	15.30

## No. 119 For Lath and Plaster.

		Diameter inches.	Offset inches.	Length inches.	
<i>Scarifier</i>	21569	$\frac{1}{4}$	3	5¼	10.30
<i>Scarify</i>	21570	$\frac{5}{16}$	3	5¼	11.35
<i>Scarlatina</i>	21571	$\frac{3}{8}$	3	7	12.40
<i>Scarlet</i>	21572	$\frac{1}{2}$	3½	8¼	12.60
<i>Scarp</i>	21573	$\frac{5}{8}$	3½	9	13.70
<i>Scath</i>	21574	$\frac{3}{4}$	4¼	10½	15.30



No. 21569.



## Interior Conduit.—(Continued.)

## Brass Armored Conduit.—(Continued.)

## Special Elbows.

## No. 511.

Code Word.	List No.	Diameter Inches.	Radius of Bend. Inches.	Offset. Inches.	List Price. Per 100
<i>Seathe</i>	21575	$\frac{1}{8}$	3	8 $\frac{1}{2}$	\$13.20
<i>Seathful</i>	21576	$\frac{3}{8}$	3	9	16.00
<i>Seathless</i>	21577	$\frac{1}{2}$	4	11 $\frac{1}{2}$	20.40
<i>Seatler</i>	21578	$\frac{3}{4}$	4	12	23.60
<i>Scattered</i>	21579	$\frac{1}{2}$	5	14	31.20
<i>Scattering</i>	21580	1	7	21	55.70
<i>Scatterer</i>	21581	1 $\frac{1}{4}$	9	24	64.70

No. 21575.

## No. 518.

Code Word.	List No.	Diameter Inches.	Radius of Bend. Inches.	Offset. Inches.	List Price. Per 100
<i>Seene</i>	21582	$\frac{1}{8}$	3	7 $\frac{1}{2}$	13.20
<i>Seeneng</i>	21583	$\frac{3}{8}$	3	8	16.00
<i>Seenic</i>	21584	$\frac{1}{2}$	4	10 $\frac{1}{2}$	20.40
<i>Seenical</i>	21585	$\frac{3}{4}$	4	11	23.60
<i>Seenographic</i>	21586	$\frac{1}{2}$	5	12 $\frac{1}{2}$	31.20
<i>Seenography</i>	21587	1	7	20	55.70
<i>Seent</i>	21588	1 $\frac{1}{4}$	9	23	64.70

## List for Additional Length of Straight Run.

Code Word.	List No.	Diameter. Inches.	Per Foot.
<i>Seentless</i>	21589	$\frac{1}{8}$	.05
<i>Seepier</i>	21590	$\frac{3}{8}$	.06
<i>Seepiered</i>	21591	$\frac{1}{2}$	.07
<i>Seepie</i>	21592	$\frac{3}{4}$	.08
<i>Schedule</i>	21593	$\frac{1}{2}$	.09
<i>Schenuntion</i>	21594	1	.12
<i>Schenuntist</i>	21595	1 $\frac{1}{4}$	.15

No. 21582.

## Return Elbows.

## No. 515.

Code Word.	List No.	Diameter Inches.	Radius of Bend. Inches.	Distance between sides. Inches.	Per 100.
<i>Sehone</i>	21596	$\frac{1}{8}$	3	6	13.20
<i>Sehoner</i>	21597	$\frac{3}{8}$	4	8	16.00
<i>Schenmist</i>	21598	$\frac{1}{2}$	4 $\frac{1}{2}$	9	20.40
<i>Schism</i>	21599	$\frac{3}{4}$	5	10	23.60
<i>Schismatic</i>	21600	$\frac{1}{2}$	6	12	31.20
<i>Schist</i>	21601	1	7	18	55.70
<i>Schitose</i>	21602	1 $\frac{1}{4}$	9	22	76.70

No. 21596.



No. 21604.

## Interior Conduit—(Continued.)

## Brass Armored Conduit—(Continued.)



No. 21604—After use of Coupling Tool.



No. 21612—Cross Section—Before using Coupling Tool.



No. 21612—After use of Coupling Tool.

## Couplings.

## No. 103½, Plain.

Code Word.	List No.		List Price. Per 100.
<i>Schistons</i>	21603	$\frac{1}{8}$ inch Seamless Brass, 2½ inches long	\$2.00
<i>Scholer</i>	21604	$\frac{1}{4}$ " " " 2½ " "	2.00
<i>Scholarly</i>	21605	" " " 2½ " "	2.25
<i>Scholastic</i>	21606	" " " 2½ " "	2.35
<i>Scholast</i>	21607	" " " 2½ " "	3.25
<i>Scholium</i>	21608	1 " " " 3½ " "	4.45
<i>School</i>	21609	1½ " " " 3½ " "	7.35
<i>Schooling</i>	21610	1½ " " " 3½ " "	12.00

## No. 103, Insulated.

<i>Schooner</i>	21611	$\frac{1}{8}$ inch Seamless Brass	5.00
<i>Schort</i>	21612	" " " "	5.50
<i>Sciatic</i>	21613	" " " "	6.50
<i>Sciaticus</i>	21614	" " " "	8.00
<i>Science</i>	21615	" " " "	11.50
<i>Scientific</i>	21616	1 " " "	15.00
<i>Scientist</i>	21617	1½ " " "	30.00

Sizes given with above Couplings are those of the inside diameter of the Conduit Tubes for which they are intended.

## Sheet Brass Clips for Conduits.



No. 1573.

<i>Indent</i>	1573	$\frac{1}{4}$ inch per gross	.50
<i>Indented</i>	1574	$\frac{1}{8}$ " " "	.50
<i>India</i>	1575	$\frac{3}{8}$ " " "	.65
<i>Indian</i>	1576	$\frac{1}{2}$ " " "	.80
<i>Indicant</i>	1577	" " " "	.90
<i>Indignant</i>	1578	$\frac{3}{4}$ " " "	1.00
<i>Indignation</i>	1579	1 " " "	1.40
<i>Indignity</i>	1580	1½ " " "	2.00

## Twisted Wire Clips for Conduits.



## No. 1581.

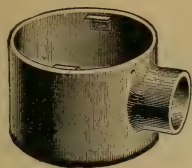
<i>Indirect</i>	1581	Size A, 4 inches long, for tubes up to $\frac{1}{2}$ inch, inclusive, per 1,000	4.00
<i>Indirection</i>	1582	" B, 7 " " " 1 " " "	5.00

We recommend for use with these Wire Clips Flat Head Nails, which we will furnish at the following net prices:

1 inch. per pound	.08
1½ " "	.07

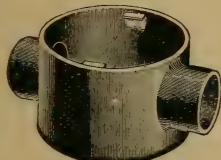
## Interior Conduit—(Continued).

## Branch Circuit Junction Boxes—Plain and Brass Covered.



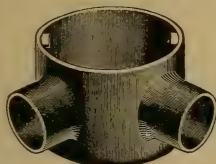
No. 1440.

Code Word.	List No.	List Price.
<i>Illiterate</i>	1449 No. 46, $\frac{3}{8}$ inch branches, plain, each.....	\$0.30
<i>Illyndged</i>	1450 " 46, $\frac{1}{2}$ " " " " .....	.30
<i>Illogical</i>	1451 " 46, $\frac{3}{4}$ " " " " .....	.50
<i>Illude</i>	1452 " 46, $\frac{1}{2}$ " " " " .....	.50



No. 1453.

<i>Image</i>	1453 No. 40, $\frac{3}{8}$ inch branches, plain, each.....	.33
<i>Imaged</i>	1454 " 40, $\frac{1}{2}$ " " " " .....	.33
<i>Imbecile</i>	1455 " 40, $\frac{3}{4}$ " " " " .....	.33
<i>Imbecility</i>	1456 " 40, $\frac{3}{8}$ " " " " .....	.55
<i>Imbed</i>	1457 " 40, $\frac{1}{2}$ " " " " .....	.55
<i>Imbedded</i>	1458 " 40, $\frac{3}{4}$ " " " " .....	.55



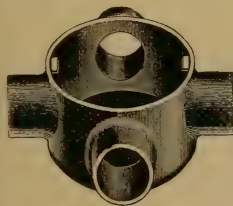
No. 1459.

<i>Imbedding</i>	1459 No. 42, $\frac{3}{8}$ inch branches, plain, each.....	.33
<i>Imbiber</i>	1460 " 42, $\frac{1}{2}$ " " " " .....	.33
<i>Imbibing</i>	1461 " 42, $\frac{3}{4}$ " " " " .....	.33
<i>Imbitter</i>	1462 " 42, $\frac{3}{8}$ " " " " .....	.55
<i>Imbittering</i>	1463 " 42, $\frac{1}{2}$ " " " " .....	.55
<i>Imbittered</i>	1464 " 42, $\frac{3}{4}$ " " " " .....	.55



No. 1465.

<i>Imbody</i>	1465 No. 41, $\frac{3}{8}$ inch branches, plain, each.....	.35
<i>Imbosom</i>	1466 " 41, $\frac{1}{2}$ " " " " .....	.35
<i>Imbound</i>	1467 " 41, $\frac{3}{4}$ " " " " .....	.35
<i>Imbow</i>	1468 " 41, $\frac{3}{8}$ " " " " .....	.55
<i>Imbowed</i>	1469 " 41, $\frac{1}{2}$ " " " " .....	.55
<i>Imbowing</i>	1470 " 41, $\frac{3}{4}$ " " " " .....	.55



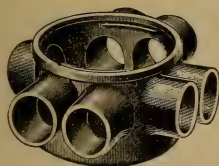
No. 1471

<i>Imbonment</i>	1471 No. 47, $\frac{3}{8}$ inch branches, plain, each.....	.38
<i>Imbox</i>	1472 " 47, $\frac{1}{2}$ " " " " .....	.38
<i>Imitable</i>	1473 " 47, $\frac{3}{4}$ " " " " .....	.38
<i>Imitate</i>	1474 " 47, $\frac{3}{8}$ " " " " .....	.60
<i>Imitation</i>	1475 " 47, $\frac{1}{2}$ " " " " .....	.60
<i>Imitating</i>	1476 " 47, $\frac{3}{4}$ " " " " .....	.60



## Interior Conduit—(Continued).

## Branch Circuit Junction Boxes—Plain and Brass Covered.



No. 1507—Eight Outlets.

Code Word.	List No.		List Price.
<i>Impolitic</i>	1507	$\frac{1}{2}$ inch branches, plain, each.....	\$0.50
<i>Impolitically</i>	1508	$\frac{3}{8}$ " " " " .....	.50
<i>Import</i>	1509	$\frac{1}{2}$ " " " " .....	.50
<i>Importable</i>	1510	$\frac{1}{2}$ " " " " brass covered, each.....	.70
<i>Importance</i>	1511	$\frac{3}{8}$ " " " " " " .....	.70
<i>Important</i>	1512	$\frac{1}{2}$ " " " " " " .....	.70



No. 1513—Two Outlets.

<i>Importantly</i>	1513	$\frac{1}{2}$ inch branches, plain, each.....	.33
<i>Importation</i>	1514	$\frac{3}{8}$ " " " " .....	.33
<i>Imported</i>	1515	$\frac{1}{2}$ " " " " .....	.33
<i>Importer</i>	1516	$\frac{1}{2}$ " " " " brass covered, each.....	.55
<i>Importing</i>	1517	$\frac{3}{8}$ " " " " " " .....	.55
<i>Importune</i>	1518	$\frac{1}{2}$ " " " " " " .....	.55

## Metal Covers for Branch Boxes.

No. 60.  
Fancy Cover,  
Regular.No. 597.  
Fancy Cover,  
With Rubber Bushing.

<i>Killing</i>	63	Dipped brass, each.....	.10
<i>Kiln</i>	66	" " .....	.15
<i>Kilt</i>	60	" " .....	.20
<i>Kimbo</i>	597	" " .....	.25
<i>Kindle</i>	599	" " .....	.25
<i>Kindled</i>	857	" " .....	.35

No. 63.  
Plain Cover,  
Regular.No. 66.  
Plain Cover,  
With Rubber Bushing.

<i>Kindlier</i>	1275	Polished Brass, each.....	.15
<i>Kindliest</i>	1276	" " " " .....	.20
<i>Kindliness</i>	1277	" " " " .....	.25
<i>Kindling</i>	1278	" " " " .....	.30
<i>Kindness</i>	1279	" " " " .....	.30
<i>Kindred</i>	1280	" " " " .....	.40

No. 857  
Fancy Cover,  
With  $2\frac{1}{2}$  inch Holder.No. 599.  
Fancy Cover,  
With Nozzle for Sockets.

<i>Kingbird</i>	1273	Black Iron, each.....	.06
<i>Kingcraft</i>	274	" " " " .....	.11





## Interior Conduit—(Continued.)

### Polished Brass Armored Conduit.

#### For Exposed Surface Work.

For this purpose the regular Brass Armored Conduit Elbows and Fittings are highly polished and coated with a fine quality of lacquer. The Conduit can be held directly on the surface of the walls by polished brass clips. This class of work has been largely used in buildings that were not originally wired for electric light, and presents a very neat appearance.



Fig. 1.



No. 21626.



No. 21628.



No. 21630.



No. 21632.



No. 21633.



No. 21635.

Code Word.	List No.	List Price. Per 100 Ft.
<i>Scimitar</i>	21618 $\frac{1}{8}$ inch inside diameter.....	\$ 9.95
<i>Scimitar</i>	21619 $\frac{3}{8}$ " " " .....	10.68
<i>Scintillant</i>	21620 $\frac{1}{2}$ " " " .....	11.88
<i>Scintillant</i>	21621 $\frac{3}{4}$ " " " .....	12.90
<i>Scintillant</i>	21622 1 " " " .....	14.28
<i>Scion</i>	21623 $1\frac{1}{4}$ " " " .....	20.22
<i>Scirrhus</i>	21624 $1\frac{1}{2}$ " " " .....	24.95
<i>Scission</i>	21625 $1\frac{3}{4}$ " " " .....	

### Sockets and Receptacles for Conduit. Branch Boxes.

Figure 1 shows the complete Socket and Receptacle inclosed in Branch Box, in which it is held in position by the Brass Cover, No. 21628, and the Rubber Screw Ring, No. 21632; the Dummy Plug, No. 21630, of wood or hard rubber is also shown. The whole is arranged so that no part projects beyond the cover itself or its edge. This has been done with special reference to the use of the device as a Floor Receptacle, and is an advantage in any place where it may be used.

	Each.
<i>Scissors</i> 21626 Socket with porcelain base including cut-out....	.75
<i>Sclerotic</i> 21627 Receptacle with porcelain base without cut-out....	.65
<i>Scoff</i> 21628 Cover for No. 21626 and 21627, brass, plain .....	.15
<i>Scold</i> 21629 " " 21626 " 21627, " polished .....	.25
<i>Scounce</i> 21630 Dummy plug to protect contacts when Socket or Receptacle is not in use, wood.....	.15
<i>Scoop</i> 21631 Dummy plug, made of hard rubber.....	.50
<i>Scope</i> 21632 Hard rubber screw ring for Nos. 21626 and 21627 ..	.10

### Attachment Plug and Receptacle.

<i>Scorbutic</i>	21633 Receptacle, including cover to fit Branch Boxes, polished brass .....	2.75
<i>Score</i>	21635 Attaching plug, hard rubber .....	2.75

# Interior Conduit—(Continued.)

## Plain Conduit.

Since the introduction of Armored Conduits there has been an increased demand for the plain conduit in making installations for electric bells, telephones, telegraph, district messenger and other systems employing low tension currents.

All tubes and elbows are cut squarely, thoroughly reamed and tested for obstructive matter by passing a test line through them, thus reducing labor of installation and waste material to a minimum.



Code Word.	List No.		List Price, Per 100 Ft.
Condenn	3971	$\frac{1}{4}$ inch, inside diameter, grade 1.....	\$2.25
Condennur	3972	$\frac{5}{16}$ " " " " " 1.....	2.25
Condennning	3973	$\frac{3}{8}$ " " " " " 1.....	2.75
Condensation	3974	$\frac{7}{8}$ " " " " " 1.....	3.75
Condensate	3975	$\frac{1}{2}$ " " " " " 1.....	4.25
Condense	3976	1 " " " " " 1.....	5.25
Condensed	3977	$1\frac{1}{4}$ " " " " " 1.....	8.00
Condensend	3978	$1\frac{1}{2}$ " " " " " 1.....	12.50
Condiment	3979	2 " " " " " 1.....	20.00
Conditite	3980	$2\frac{1}{2}$ " " " " " 1.....	32.00

$\frac{1}{4}$  inch size in six foot lengths; all other sizes in ten foot lengths.

## No. 110, Standard Short Elbow.

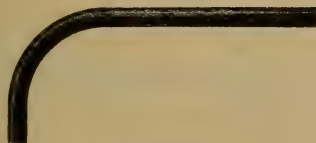


No. 1338.

			Per 100.
Impearling	1338	$\frac{1}{4}$ inch inside diameter.....	5.50
Impede	1339	$\frac{5}{16}$ " " " ".....	5.50
Impeded	1340	$\frac{3}{8}$ " " " ".....	5.60
Impeding	1342	$\frac{7}{8}$ " " " ".....	7.50
Impeditice	1343	$\frac{1}{2}$ " " " ".....	10.00
Impel	1344	1 " " " ".....	13.00
Impelled	1345	$1\frac{1}{4}$ " " " ".....	25.00
Impellent	1346	$1\frac{1}{2}$ " " " ".....	47.00

Larger Sizes Furnished to Order.

## No. 112, Plain Long Elbow.



No. 1354.

Impenned	1354	$\frac{1}{4}$ inch, inside diameter.....	15.50
Impennung	1355	$\frac{5}{16}$ " " " ".....	16.00
Imperceptible	1356	$\frac{3}{8}$ " " " ".....	17.75
Imperfection	1358	$\frac{7}{8}$ " " " ".....	19.75
Imperfectly	1359	$\frac{1}{2}$ " " " ".....	21.75
Imperfectness	1360	1 " " " ".....	25.00
Imperforate	1361	$1\frac{1}{4}$ " " " ".....	32.50



No. 1369.

## Interior Conduit.—(Continued.)

## Plain Conduit.—(Continued.)

## No. 113, Plain S Elbow.

Code Word.	List No.		List Price. Per 100.
<i>Impervishly</i>	1369	$\frac{3}{4}$ inch, inside diameter.....	\$15.25
<i>Impersonate</i>	1370	$\frac{1}{2}$ " " " ".....	15.75
<i>Impersonated</i>	1371	$\frac{3}{8}$ " " " ".....	17.25
<i>Impertinent</i>	1373	$\frac{5}{8}$ " " " ".....	22.50
<i>Impertinently</i>	1374	$\frac{3}{4}$ " " " ".....	27.50
<i>Impetuous</i>	1375	1 " " " ".....	34.00
<i>Impetuously</i>	1376	$1\frac{1}{4}$ " " " ".....	50.00



No. 1384.

## No. 111, Plain T or Double Elbow.

<i>Impious</i>	1384	Mains $\frac{5}{8}$ inch, Branch $\frac{1}{2}$ inch.....	16.25
<i>Impiously</i>	1385	" " " " $\frac{1}{2}$ " ".....	16.50
<i>Impish</i>	1387	" " " " $\frac{3}{8}$ " ".....	18.75
<i>Immerge</i>	1388	" " " " $\frac{1}{2}$ " ".....	20.25
<i>Immerged</i>	1389	" " " " $\frac{3}{4}$ " ".....	25.00
<i>Immerging</i>	1390	" 1 " " $\frac{1}{2}$ " ".....	35.00

No. 110 $\frac{1}{2}$ , Plain Short Elbow, with Attached Couplings.

<i>Immeshing</i>	1397	$\frac{1}{4}$ inch, inside diameter.....	13.30
<i>Imminent</i>	1398	$\frac{1}{2}$ " " " ".....	13.30
<i>Immingle</i>	1399	$\frac{3}{8}$ " " " ".....	13.50
<i>Immitte</i>	1401	$\frac{1}{2}$ " " " ".....	18.50
<i>Immixed</i>	1402	$\frac{3}{4}$ " " " ".....	22.00
<i>Immixing</i>	1403	1 " " " ".....	30.00

No. 112 $\frac{1}{2}$ , Plain Long Elbow, with Attached Couplings.

<i>Immolation</i>	1410	$\frac{1}{4}$ inch, inside diameter.....	23.50
<i>Immoral</i>	1411	$\frac{1}{2}$ " " " ".....	24.00
<i>Immortality</i>	1412	$\frac{3}{8}$ " " " ".....	25.75
<i>Immortality</i>	1414	" " " ".....	30.00
<i>Immortalize</i>	1415	$\frac{1}{2}$ " " " ".....	34.00
<i>Immorable</i>	1416	1 " " " ".....	41.00

No. 113 $\frac{1}{2}$ , Plain S Elbow, with Attached Couplings.

<i>Impairing</i>	1423	$\frac{1}{4}$ inch, inside diameter.....	23.00
<i>Impale</i>	1424	$\frac{1}{2}$ " " " ".....	23.60
<i>Impalement</i>	1425	$\frac{3}{8}$ " " " ".....	25.50
<i>Impartial</i>	1427	" " " ".....	31.00
<i>Impartible</i>	1428	$\frac{1}{2}$ " " " ".....	39.75
<i>Imparting</i>	1429	1 " " " ".....	50.00

No. 111 $\frac{1}{2}$ , Plain T, with Attached Couplings.

<i>Impeart</i>	1436	Mains $\frac{5}{8}$ inch, Branch $\frac{1}{4}$ inch.....	26.25
<i>Impearted</i>	1437	" $\frac{3}{8}$ " " " $\frac{1}{2}$ " ".....	27.90
<i>Idolize</i>	1439	" " " " " ".....	29.50
<i>Igenous</i>	1440	" " " " " ".....	32.25
<i>Ignite</i>	1441	" $\frac{1}{2}$ " " " ".....	34.50
<i>Ignited</i>	1442	" 1 " " " ".....	41.00



No. 1410.

## Interior Conduit—(Continued).

## Staple Drivers.

Code Word.	List No.		List Price.
<i>Indispose</i>	1583	$\frac{1}{2}$ inch, each, net.....	\$0.10
<i>Indisposed</i>	1584	$\frac{3}{8}$ " " .....	.11
<i>Indisposing</i>	1585	$\frac{1}{2}$ " " .....	.12
<i>Indistinct</i>	1586	$\frac{1}{2}$ " " .....	.14
<i>Indistinctly</i>	1587	$\frac{3}{8}$ " " .....	.16
<i>Indorse</i>	1588	$\frac{1}{2}$ " " .....	.18
<i>Indorsed</i>	1589	1 " " .....	.20
<i>Indorsement</i>	1590	$1\frac{1}{2}$ " " .....	.24



No. 1583.

## Coupling Tool.

<i>Indorser</i>	1591	$\frac{1}{2}$ inch, each, net.....	.90
<i>Induce</i>	1592	$\frac{3}{8}$ " " .....	.90
<i>Induct</i>	1593	$\frac{1}{2}$ " " .....	1.00
<i>Inducted</i>	1594	$\frac{1}{2}$ " " .....	1.20
<i>Inducting</i>	1595	$\frac{1}{2}$ " " .....	1.25
<i>Inductive</i>	1596	$\frac{1}{2}$ " " .....	1.50
<i>Inductor</i>	1597	1 " " .....	1.75
<i>Indulge</i>	1598	$1\frac{1}{2}$ " " .....	2.15



No. 1591.

## Miscellaneous.

<i>Indulgent</i>	1316	Staples, all sizes, per pound, net.....	.10
<i>Industry</i>	1317	Compound for Making Joints, per pound, net..	.20
<i>Inez</i>	1318	Powdered Soapstone, per pound, net .....	.04
<i>Infamous</i>	1319	Fishing Wire, per foot, net.....	.01

## Finishing and Fitting Tools for Conduits.

<i>Infamy</i>	153	Outside Reamer, each.....	1.00
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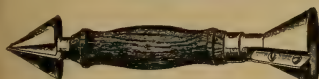
No. 153—Outside Reamer.

<i>Infancy</i>	154	Inside Reamer, each.....	1.00
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No. 154—Inside Reamer.

<i>Infantile</i>	157	Combination Reamer each.....	1.90
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No. 157—Combination Reamer.

<i>Infantine</i>	155	Trimmer for Brass Covered Conduit Tube, for conduits up to and including $\frac{3}{8}$ inch, each....	2.10
<i>Infect</i>	158	Trimmer for Brass Covered Conduit Tube, for conduits up to and including $1\frac{1}{2}$ inch, each...	2.60
<i>Infected</i>	156	Universal Trimmer for Brass Covered Conduit Tube, for all size conduits, each.....	4.25

No. 155.  
Trimmer for Metal Covered Conduit Tube.

## Interior Conduit—(Continued.)

### Instructions.

In ordering Tube and Fittings the proper amount of Fittings bears about the following ratio to the Tube:

Three Couplings to every ten feet of Brass Armored Tube.

Four Couplings to every ten feet of Iron Armored Tube.

Four Elbows to every thirty feet of Tube.

Fifteen Clips to every thirty feet of Plain or Brass Armored Tube.

The number of Main Line, Junction, Feeder and other Boxes can only be determined by actual count and the arrangement of the circuits.

Small quantities of Compound, for sealing Tubes in Junction Boxes, Soapstone and Fishing Wire, should always accompany every order.

Iron Armored Conduit is shipped in bundles, securely tied.

Packing Charges are as follows: Slats for Bundling Plain or Brass Armored Conduit, 7 cts. each; Six-foot Crates, 75 cts. each; Ten-foot Crates, \$1.00 each; Barrels, 25 cts. each; Small Boxes, 15 cts. and 25 cts. each.

We charge net cost of material only, and are not reimbursed for the labor expended in packing.

### Flexible Conduit.

#### For Interior Wiring.



Code Word.	List No.		List Price. Per foot.
<i>Amidships</i>	3925	$\frac{1}{4}$ inch inside diameter .....	\$0.06
<i>Amis</i>	3926	$\frac{1}{2}$ " " " " .....	.07
<i>Ammunition</i>	3927	$\frac{3}{4}$ " " " " .....	.08
<i>Awnesty</i>	3928	1 " " " " .....	.10
<i>Awang</i>	3929	$\frac{3}{4}$ " " " " .....	.12
<i>Amarous</i>	3930	1 " " " " .....	.16
<i>Amount</i>	3931	1 $\frac{1}{4}$ " " " " .....	.20

Shipped in coils unless specially ordered on reels.

#### Size of Coils and Weight.

	Feet per Coil.	Weight per 1000 Feet.
$\frac{1}{4}$ inch inside diameter .....	250	90
$\frac{3}{8}$ " " " " .....	250	100
$\frac{1}{2}$ " " " " .....	200	125
$\frac{3}{4}$ " " " " .....	200	140
1 " " " " .....	150	175
1 " " " " .....	100	250
1 $\frac{1}{4}$ " " " " .....	100	280





Two Duct.



Three Duct.



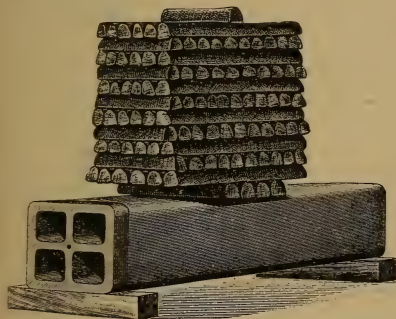
All Styles are made Six Feet Long.



Four Duct.



Six Duct.



This cut is taken from a photograph showing a four chamber Conduit, 8 x 8 inches, six feet long, distance between bearings five feet four inches, supporting seven tons of pig iron.



Cross section of six chamber Conduit, showing position of dowel pins in abutting joints.

## The McRoy Vitrified Terra Cotta Conduit.

Manufactured from pure shale, finely ground, giving density and smoothness; is thoroughly and uniformly burned, affording good alignment and adding great bearing strength.

Made in lengths of 6 feet, and widths of 8½ and 13 inches, this size alone commends it to general favor owing to the great surface bearing of each piece.

In cross section dimensions the outer walls are ¾ in. with partitions ½ in. thick, and duct openings 3¼ x 3¼ inches square, with rounded corners.

The interior and exterior of Conduit being thoroughly salt glazed, prevents the moisture from penetrating.

The ends of each piece have the duct openings beveled to avoid any possibility of cable coming in contact with sharp edges.

Being manufactured of shale places it foremost as a material not affected by electrolysis or any gases or acids in the earth, besides being entirely free from corrosion.

The large amount of duct area obtainable in the McRoy Conduit compared with the small cross section of Conduit is well worthy of consideration.

Being made in multiples of two, three, four and six ducts, any odd number of multiple Conduit can be constructed.

In making joint a simple Portland cement mortar coating around joint is generally used.

To make an airtight joint a strip of burlap 8 to 10 inches wide, saturated with hot liquid asphalt is wrapped several times around joint, adding to its rigidity and making joint waterproof. No cement mortar is needed for this joint.

It can be laid surrounded entirely by concrete, in which case the concrete on the sides necessarily need not be very thick.

It is considered practical to lay it on a concrete foundation, none on sides, but the top covered with concrete for protection against the users of picks.

**Prices Quoted on Application.**

## Western Electric Fan Motors.

### Fan Motors for Direct Current Incandescent Circuits.

In designing the W. E. Fan Motor for 1897, great attention has been given to the essential qualities of a Fan Motor, namely: Cost, Appearance, Economy of Operation, and Durability, and we feel warranted in saying that this Motor possesses all these requirements to a remarkable degree. The design of the Motor is artistic and graceful, and when running at the maximum speed consumes but little more current than an ordinary 16 c. p. incandescent lamp. The Motor is designed upon scientific principles, and drop-forged steel is used in the construction of the horseshoe field magnets—the most economical form of magnet known—all of which contributes to the extraordinary high efficiency obtained in the motor.

The armature is iron-clad and furnished with mica insulated commutator, and is entirely encased by the metal of the motor, protecting it from dust and injury from external sources.

The brush holders are so designed as to automatically take up the wear of the carbons, without the necessity of manual adjustment, and to press the carbon brushes up-

on the commutator in the direction of rotation. This is a very essential feature for noiseless operation.

The frame of the adjustable base motor is provided with a ball joint so that the Fan may be elevated or depressed at pleasure, and the Bracket Motor can be turned in any direction desired. Several sizes are made with rigid base.

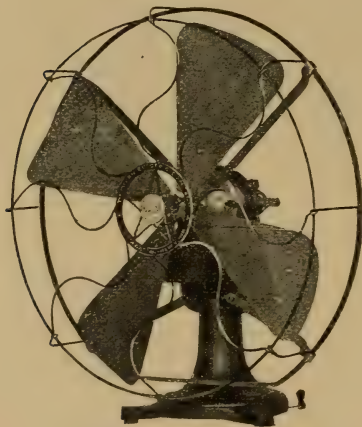
The Motor is furnished with self-oiling bearings and is silent in operation, the only noise to be detected being caused by the whirling of the fan through the air.

The utmost care in the selection of material and assembling of the Motors is maintained and every Motor is guaranteed.

These Motors have three speeds and are furnished with 16-inch and 12-inch Fan Blades.

The 16-inch Motor is wound for 110, 220 and 550 volts direct current. The 12-inch Motor is wound for 110 volts only.

The Ceiling and Column Fan Motors have two speeds and are furnished with 60-inch Fan Blades. They are wound for 110, 220 and 550 volts, direct current.



Desk Fan Motor—16-inch.  
Rigid Base.

#### Desk Fan, 16-inch, with Rigid Base.

A 16-inch Fan Motor, with short standard, has been designed. It is in all respects similar to the Desk Motor listed, excepting the adjustable ball joint and elbow are omitted in order to shorten the height of the Fan.

In ordering the Sixteen-inch Rigid Base Fan use the same List No. as for the Adjustable Base 16-inch Desk Fan, and specify Rigid Base.

## Direct Current Fan Motors—(Continued.)

## Western Electric Desk Fan, 12-inch, 110 Volts.

## Rigid Base.

List No.		List Price Each.
F-1.	One-twelfth H. P., Western Electric Fan Motor, with regulating switch, giving three speeds, viz.: 1,800, 1,400 and 1,000 revolutions per minute at 110 volts, for constant potential incandescent circuits, up to 125 volts, self-oiling bearings, enamel finish, complete with 12-inch black enamel Fan and Guard.....	\$34.00
F-2.	With Polished brass Fan and Guard, and all other outside brass fittings polished.....	34.00
F-3.	With nickel-plated Fan and Guard, and all other outside brass fittings nickel-plated.....	34.00

## Western Electric Desk Fan, 16-inch, 110 Volts.

A-4.	One-sixth H. P., Western Electric Fan Motor, with regulating switch, giving three speeds, viz.: 1,500, 1,200 and 800 revolutions per minute at 110 volts, for constant potential incandescent circuits up to 125 volts, self-oiling bearings, enamel finish, complete with 16-inch black enamel Fan and Guard.....	43.00
A-5.	With polished brass Fan and Guard, and all other outside brass fittings polished.....	43.00
A-6.	With nickel-plated Fan and Guard, and all other outside brass fittings nickel-plated.....	43.00

## Western Electric Desk Fan, 16-inch, 220 Volts.

AA-13.	One-sixth H. P., Western Electric Fan Motor, with regulating switch, giving three speeds, viz.: 1,500, 1,200 and 800 revolutions per minute at 220 volts, for constant potential incandescent circuits up to 240 volts, self-oiling bearings, with polished brass Fan and Guard and all other outside brass fittings polished.....	50.00
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## Western Electric Desk Fan, 16-inch, 500 Volts.

AAA-15.	One-sixth H. P., Western Electric Fan Motor, with regulating switch, giving three speeds, viz.: 1,500, 1,200 and 800 revolutions per minute at 500 volts, for constant potential incandescent circuits, up to 500 volts, self-oiling bearings, with polished brass Fan and Guard and all other outside brass fittings polished.....	55.00
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16-inch Fan made with either rigid or adjustable base. Specify the style when ordering.

In ordering give list No. and voltage.



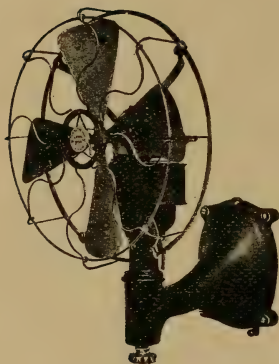
Desk Fan Motor—12-inch.  
Rigid Base.



Desk Fan Motor—16-inch.  
Adjustable Base.

## Direct Current Fan Motors—(Continued.)

## Western Electric Bracket Fan, 12-inch, 110 Volts.



Bracket Fan Motor—12-inch.

List No.		List Price. Each.
F-7,	One-twelfth H. P., Western Electric Fan Motor, with regulating switch, giving three speeds, viz.: 1,800, 1,400 and 1,000 revolutions per minute at 110 volts, for constant potential incandescent circuits, up to 125 volts, self-oiling bearings, thumbscrew for adjusting direction of Fan; feet of base drilled for screws; complete with 12-inch Fan and Guard.....	\$34.00
F-8,	With polished brass Fan and Guard, and all other outside brass fittings polished .....	34.00
F-9,	With nickel-plated Fan and Guard, and all other outside brass fittings nickel-plated.....	34.00

## Western Electric Bracket Fan, 16-inch, 110 Volts.

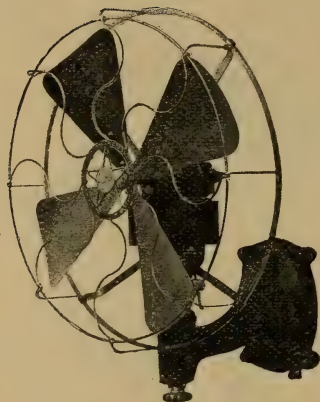
A-10,	One-twelfth H. P., Western Electric Fan Motor, with regulating switch, giving three speeds, viz.: 1,800, 1,400 and 1,000 revolutions per minute at 110 volts, for constant potential incandescent circuits, up to 125 volts, self-oiling bearings, thumbscrew for adjusting direction of Fan; feet of base drilled for screws; complete, with 16-inch Fan and Guard.....	43.00
A-11,	With polished brass Fan and Guard, and all other outside brass fittings polished .....	43.00
A-12,	With nickel-plated Fan and Guard, and all other outside brass fittings nickel-plated .....	43.00

## Western Electric Bracket Fan, 16-inch, 220 Volts.

AA-14,	One-sixth H. P., Western Electric Fan Motor, with regulating switch, giving three speeds, viz.: 1,500, 1,200 and 800 revolutions per minute at 220 volts, for constant potential incandescent circuits, up to 240 volts, self-oiling bearings, thumbscrew for adjusting direction of Fan, feet of base drilled for screws; polished brass Fan and Guard, and all other outside brass fittings polished.....	50.00
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## Western Electric Bracket Fan, 16-inch, 500 Volts.

AAA-16,	One-sixth H. P., Western Electric Fan Motor, with regulating switch, giving three speeds, viz.: 1,500, 1,200 and 800 revolutions per minute at 500 volts, for constant potential incandescent circuits, up to 550 volts, self-oiling bearings, thumbscrew for adjusting direction of Fan, feet of base drilled for screws; complete, with 16-inch Fan and Guard.....	55.00
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Bracket Fan Motor 16 inch.

In ordering give List No. and Voltage.



## Direct Current Fan Motors—(Continued.)

## Western Electric Ceiling Fan, 110 Volts.

List No.

List Price  
Each.

- C-34, Western Electric Ceiling Fan Motor, with regulating switch, giving two speeds, viz.: 150 and 75 revolutions per minute, at 110 volts, for constant potential incandescent circuits, up to 125 volts, self-oiling bearings, polished brass finish, 60-inch blades, for ceilings from 10 to 12 feet in height, complete..... \$45.00
- For ceilings over 12 feet in height add 50 cts. to the above list for each additional 6 inches.

## Western Electric Ceiling Fan, 220 Volts.

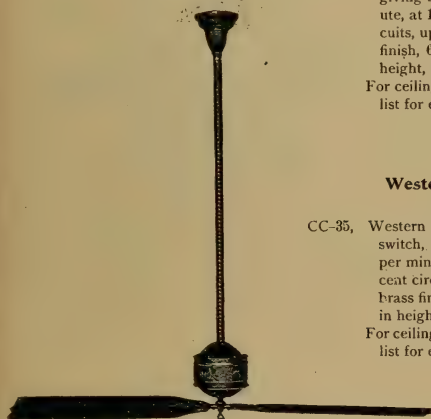
- CC-35, Western Electric Ceiling Fan Motor, with regulating switch, giving two speeds, viz.: 150 and 75 revolutions per minute, at 220 volts, for constant potential incandescent circuits up to 240 volts, self-oiling bearings, polished brass finish, 60-inch blades, for ceilings from 10 to 12 feet in height, complete..... 53.00
- For ceilings over 12 feet in height add 50 cts. to the above list for each additional 6 inches.

## Western Electric Ceiling Fan, 500 Volts.

- CCC-36, Western Electric Ceiling Fan Motor, with regulating switch, giving two speeds, viz.: 150 and 75 revolutions per minute, at 500 volts, for constant potential incandescent circuits, up to 550 volts, self-oiling bearings, polished brass finish, 60-inch blades, for ceilings from 10 to 12 feet in height, complete..... 63.00
- For ceilings over 12 feet in height add 50 cts. to the above list for each additional 6 inches.

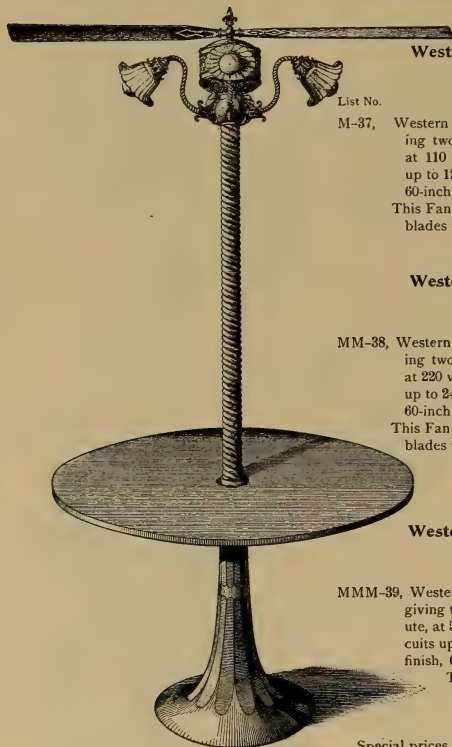
Special prices quoted for Ceiling Fans with two, three or more brackets arranged for Incandescent Electric Lights.

In ordering give List No. and Voltage.





## Direct Current Fan Motors—(Continued.)

**Western Electric Column Fan, 110 Volts.**

Height of Blades from floor, 7 ft. 4 in.

List No.

List Price.  
Each.

- M-37, Western Electric Column Fan, with regulating switch, giving two speeds, viz.: 150 and 75 revolutions per minute, at 110 volts, for constant potential incandescent circuits up to 125 volts, self-oiling bearings, polished brass finish, 60-inch blades ..... **60.00**
- This Fan will be arranged for chandelier lights under the blades when so desired.

**Western Electric Column Fan, 220 Volts.**

Height of Blades from floor, 7 ft. 4 in.

- MM-38, Western Electric Column Fan, with regulating switch, giving two speeds, viz.: 150 and 75 revolutions per minute, at 220 volts for constant potential incandescent circuits up to 240 volts, self-oiling bearings, polished brass finish, 60-inch blades ..... **67.50**
- This Fan will be arranged for chandelier lights under the blades when so desired.

**Western Electric Column Fan, 500 Volts.**

Height of Blades from floor, 7 ft. 4 in.

- MMM-39, Western Electric Column Fan, with regulating switch, giving two speeds, viz.: 150 and 75 revolutions per minute, at 500 volts, for constant potential incandescent circuits up to 550 volts, self-oiling bearings, polished brass finish, 60-inch blades ..... **80.00**
- This Fan will be arranged for chandelier lights under the blades when so desired.

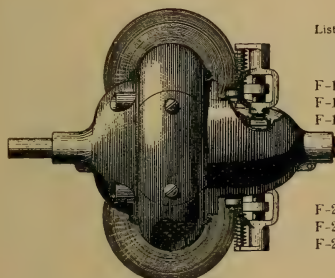
Special prices quoted on Column Fans with two, three or more brackets arranged for incandescent lights.

We furnish Column Fans with round mahogany table around standard, for restaurants.

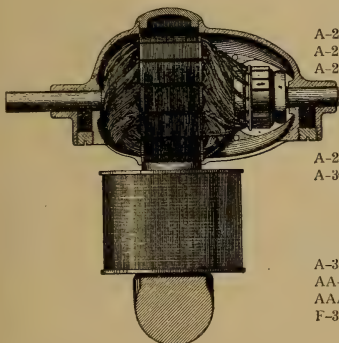
In ordering give List No. and Voltage.

# Direct Current Fan Motors--(Continued.)

## Prices of Parts of Western Electric Fan Motors



Top View showing Brush Holders and Carbon Brushes.



Vertical Cross Section Showing Armature, Commutator, Field Coils and Self-Oiling Bearings.

List No.

List Price.  
Each

### 12-Inch Fans.

F-17,	12-inch Brass Fan, polished .....	\$2.50
F-18,	12-inch Brass Fan, nickel-plated .....	2.50
F-19,	12-inch Black Enameled Fan .....	2.50

### 12-Inch Guards.

F-20,	12-inch Black Enameled Guard .....	3.00
F-21,	12-inch Brass Guard, polished .....	3.00
F-22,	12-inch Brass Guard, nickel-plated .....	3.00

### 16-Inch Fans.

F-23,	16-inch Brass Fan, polished .....	3.00
A-24,	16-inch Brass Fan, nickel-plated .....	3.00
A-25,	16-inch Black Enameled Fan .....	3.00

### 16-Inch Guards.

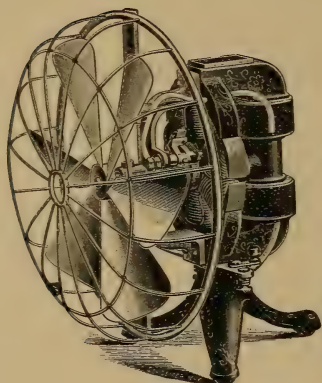
A-26,	16-inch Black Enameled Guard .....	3.25
A-27,	16-inch Brass Guard, polished .....	3.25
A-28,	16-inch Brass Guard, nickel-plated .....	3.25

### Carbon Brushes.

A-29,	Carbon Brushes for 1-12 H. P. Motor, per pair .....	.10
A-30,	Carbon Brushes for 1-6 H. P. Motor, per pair .....	.10

### Armatures.

A-31,	Armatures for 1-6 H. P. Motor, 110 volt .....	15.00
AA-32,	Armatures for 1-6 H. P. Motor, 220 volt .....	19.00
AAA-33,	Armatures for 1-6 H. P. Motor, 500 volt .....	23.00
F-34,	Armatures for 1-12 H. P. Motor, 110 volt .....	10.00

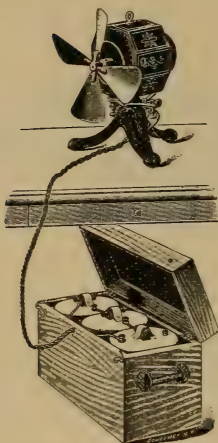


Battery Fan Motor, No. 1.

## Direct Current Fan Motors—(Continued.)

## Battery Fan Motor, No. 1.

List No		List Price. Each.
2820,	Outfit complete, with charge to run 125 hours.....	\$25.00
	Consisting of four Edison-Lalande cells, type "S," porcelain jars, in polished oak box, 25 in. long, 8 in. wide, 15 in. high, Motor Battery Cords, Fan and Guard.	
2821,	Battery Motor, with 9-inch Fan and Guard.....	12.00
	The Motor with Fan occupies a space 10 x 12 ins. It is absolutely noiseless.	
2822,	Flexible Battery Cord connecting Motor to Battery.....	1.00
2823,	Complete renewals for 4 cells, Type "S".....	4.76
2824,	Zinc Plates, each.....	.21
2825,	Copper Oxide Plates.....	.25
2826,	Caustic Potash, per can of 8 sticks.....	.96
2827,	Heavy Paraffine Oil, per bottle.....	.21

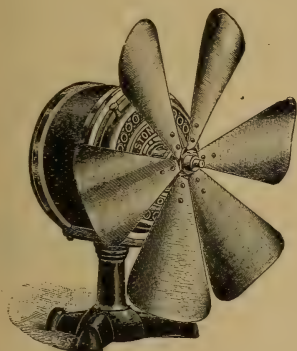


Iron-Clad Battery Fan Motor, No. 2.

## Iron Clad Fan Motor, No. 2.

2828,	Outfit complete, including Motor, with 7-inch Fan, and Battery Cords, 3 Edison-Lalande cells, porcelain jars, type "Q," in polished oak box, 18¾ in. long, 7 in. wide, 9¾ in. deep, with charge to run motor 75 hours.....	15.50
2829,	Edison Iron Clad Battery Fan and Motor, with 7-inch Fan. It is noiseless, has self-oiling bearings, and is entirely enclosed in ironclad case, being provided with glass window at rear for regulation of brushes. When ordering renewals for this Outfit always state for Type "Q."	8.00
2830,	Complete Renewals for 3 cells, "Type Q".....	2.07
2831,	Zinc Plates.....	.12
2832,	Copper Oxide Plates.....	.25
2833,	Caustic Potash, per can of 6 sticks.....	.48
2834,	Heavy Paraffine Oil, per bottle.....	.12

## Fan Motors for Alternating Current Incandescent Circuits up to 110 Volts.



No. 2991.

### Meston Brushless Fan Motor.

For 7,200 and 16,000 Alternations per minute.

This Fan is the same general design as the Meston Standard Fan, but has no Commutator or Brushes. It has a 12-inch Fan and Guard, perfect speed regulator, and is furnished for both high and low frequency currents.

Code Word.	List No.	List Price. Each.
<i>Scrippy</i>	4111 Nickel-plated and Black Enamel Finish for 16,000 alternations per minute .....	\$30.00
<i>Skulk</i>	4112 Nickel-plated and Black Enamel Finish for 7,200 alternations per minute.....	30.00

In ordering, give List No., Voltage and Frequency.

### Meston Standard Fan Motor.

For 16,000 Alternations per minute only.

<i>Skulker</i>	2991 Polished Bronze and Black Enameled Finish, 12-inch Fan, with Guard.....	30.00
<i>Skull</i>	2992 Nickel-plated and Black Enameled Finish, 12-inch Fan, with Guard.....	35.00
<i>Skunk</i>	4134 Polished Bronze and Black Enameled Finish, 16-inch Fan, with Guard.....	40.00
<i>Skurry</i>	4135 Nickel-plated and Black Enameled Finish, 16-inch Fan, with Guard.....	45.00

In ordering, give List No. and Voltage.

# TOOLS.



No. 15005.

## Carrying Hooks.

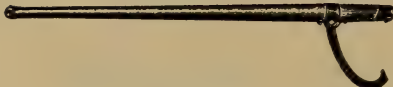
Code Word.	List No.	List Price.
<i>Merritt</i>	<b>15005</b>	Carrying hook, with swivel bearing, each \$ <b>5.00</b>
<i>Mertens</i>	<b>15006</b>	" " without " " <b>4.00</b>



No. 15010.

<i>Maro</i>	<b>15010</b>	Extra heavy, 7-foot handle.....	<b>4.50</b>
<i>Marquan</i>	<b>15011</b>	Heavy, 6-foot handle.....	<b>4.00</b>
<i>Marquette</i>	<b>15012</b>	Medium, 5-foot handle.....	<b>3.50</b>

These hooks are made with particular regard to construction work. They are not malleable iron. The swivel bolt is forged wrought iron; hooks steel, with special long prods. The handles are made especially for us.



No. 15007.

## Cant Hooks.

<i>Merrin</i>	<b>15007</b>	Cant hook, 4 feet long, each.....	<b>2.50</b>
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No. 14910

## Digging Shovels.

<i>Meshoppen</i>	<b>14910</b>	Pole hole shovels, regular, 7-foot. handle, each.....	<b>1.25</b>
<i>Metamora</i>	<b>14911</b>	Pole hole shovels, regular, 8-foot handle, each.....	<b>1.40</b>
<i>Metcalf</i>	<b>14912</b>	Pole-hole shovels, heavy, extra long straps, 7-foot handle, each.....	<b>1.50</b>
<i>Metropolitan</i>	<b>14913</b>	Pole hole shovels, heavy, extra long straps, 8-foot handle, each.....	<b>1.60</b>
<i>Meyers</i>	<b>14915</b>	Shovel handles, 7-foot, per dozen.....	<b>5.50</b>
<i>Miami</i>	<b>14916</b>	Shovel handles, 8-foot, per dozen.....	<b>6.00</b>





No. 3780.

**Digging Spoons.**

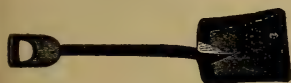
Code Word.	List No.	List Price.
<i>Beesteez</i>	3780	Pole hole spoons, regular, 7-foot handle, each..... \$ 1.60
<i>Beetle</i>	3781	Pole hole spoons, regular, 8-foot handle, each..... 1.75
<i>Beftall</i>	3782	Pole hole spoons, heavy, 7-foot handle, each..With extra long straps..... 1.75
<i>Beft</i>	3783	Pole hole spoons, heavy, 8-foot handle, each..With extra long straps, ..... 2.00
<i>Micanopy</i>	14917	Spoon handles 7-foot, per dozen..... 7.50
<i>Mirhagamme</i>	14918	Spoon handles, 8-foot, per dozen..... 7.50



No. 3869.

**Grading Shovels.**

<i>Binocular</i>	3869	Round point, per dozen.....	9.00
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No. 3870.

<i>Binocular</i>	3870	Square point, per dozen.....	9.00
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No. 3622.

**Eureka Post Hole Diggers.**

<i>Anchorage</i>	3622	Each.....	2.50
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No. 14920.

**Vaughan's Patent Augers.**

<i>Middleboro</i>	14920	10-inch, each.....	3.50
<i>Middleburg</i>	14921	12 " " .....	4.00
<i>Middlefield</i>	14923	14 " " .....	4.50

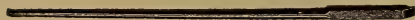


No. 3689.

**Digging Bars.**

<i>Beheaded</i>	3689	Digging bar, round, 1½ inches diameter, 8 feet long, best steel, each.....	2.50
<i>Middleport</i>	3690	Digging bar, octagon, 1½ inches diameter, 8 feet long, best steel, each.....	2.50

## Crow Bars.



No. 3687.

Code Word:	List No.		List Price, Each.
<i>Behavior</i>	3687	Crow bars, 4 feet long.....	\$ 2.50
<i>Behend</i>	3688	" 6 " ".....	3.00

## Tamping Bars.



No. 1108

<i>Creeg</i>	1108	Tamping bar, wood, 7 ft. long	2.25
<i>Creasing</i>	3075	Tamping bar, iron, 7 ft. long	2.00
<i>Cricket</i>	3078	Combined digging and tamping bar, iron.....	2.50

## Raising Forks.



No. 14925.

<i>Millanville</i>	14925	Length, 12 feet.....	2.20
<i>Millanfield</i>	14926	" 14 ".....	2.30
<i>Millerville</i>	14927	" 16 ".....	2.40

## Pike Poles.



No. 14928.

<i>Millerton</i>	14928	Pike pole, length, 12 feet...	1.20
<i>Millenbury</i>	14929	" " 14 ".....	1.35
<i>Millar</i>	14930	" " 16 ".....	1.50
<i>Millerburg</i>	14931	" " 18 ".....	1.60



No. 14932.

## Pole Supporters.

<i>Millerfield</i>	14932	Jenny pole supporter, height 6 feet.....	8.00
<i>Millereau</i>	14933	Jenny pole supporter, height 7½ feet.....	8.50



No. 3693.

<i>Benignant</i>	3693	"Mule" pattern, height 4½ ft.	7.00
<i>Benwab</i>	3694	" " " 6 ".....	7.00
<i>Benumbed</i>	3695	" " " 7½ ".....	7.00



No. 2543.

# Reels.

Code Word	List No.	List Price.
<i>Constrictor</i>	<b>2543</b>	Take-up reel, each..... <b>\$ 15.00</b>

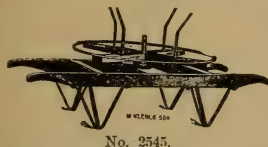


No. 15015.

<i>Marvel</i>	<b>15015</b>	Improved take-up reel, each..... <b>17.50</b>
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The improvement in this reel consists of a separate guard piece (shown in cut below) which is slipped on shaft and fastened with a flat key. To empty the reel, lift the spool out of buck, draw the key, and turn reel on end, the guard piece and coil will then come off together. This arrangement does away with the loose toggle guard irons of the old style reel and is much handier.



No. 2545.

<i>Constrictor</i>	<b>2545</b>	Pay-out and take-up reel, each..... <b>16.50</b>
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No. 2544.

<i>Constriction</i>	<b>2544</b>	Pay-out reel, each..... <b>7.50</b>
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<i>Categorical</i>	<b>2546</b>	Reel straps, per set..... <b>5.00</b>
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Nos. 14935 and 1109.

**Vises—Stubs .**

Code Word.	List No.	List Price. Each.
<i>Millergan</i>	14935 Stubs, 5½ inch.....	\$ 2.25
<i>Millington</i>	14936 " 6 " .....	3.00
<i>Millmont</i>	14937 " 5½ " copper face.....	3.50
<i>Millstadt</i>	14938 " 6 " " " .....	4.50

**Vises—Vom Cleff's.**

<i>Bilking</i>	2547 5½ inch.....	1.75
<i>Billbrook</i>	2548 6 " .....	2.00
<i>Billet</i>	2549 5½ " copper face.....	2.50
<i>Millville</i>	2538 6 " " " .....	3.00
<i>Mitroy</i>	1109 Vise straps.....	.75



No. 14940.

**"Come-Along" Eccentric.**

<i>Milton</i>	14940 For No. 9 wire.....	.60
<i>Millwood</i>	14941 For No. 3 wire.....	1.25
<i>Milo</i>	14942 For No. 000 wire.....	1.50



No. 3705.

**Klein's Plain Eccentric.**

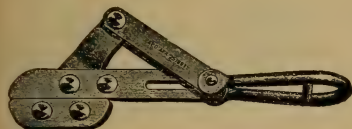
<i>Beauty</i>	3705 Brass.....	1.25
<i>Beautyspot</i>	3706 Steel.....	1.75



No. 3494.

**Haven's Clamp.**

<i>Blundering</i>	3494 Small size.....	1.75
<i>Blunt</i>	3495 Large size.....	3.50



No. 14945.

### The Buffalo Grip.

Code Word:	List No.	List Price.
		Each.
<i>Milipitus</i>	14945	Large size, for Trolley wire..... \$ 4.50
<i>Milesburg</i>	14946	Small " " No. 6 and smaller 3.00

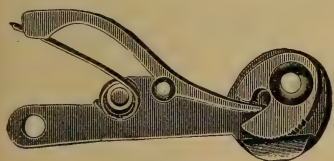


No. 15018.

### Parallel Screw Clamp.

For Trolley Wire.

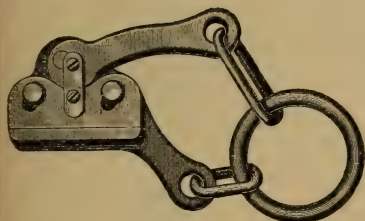
<i>Martinsburg</i>	15018	..... 2.25
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No. 15020.

### Ferdinand Wire Stretcher.

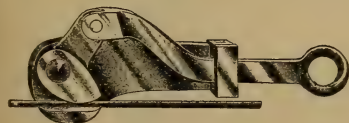
<i>Martinsville</i>	15020	..... 1.00
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No. 106.

### Fulford's Eccentric.

<i>Discerned</i>	106	..... 4.00
		Will take No. 3 B. & S. bare wire.

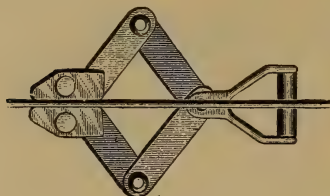


No. 15021.

### Landee's Clamp.

<i>Marville</i>	15021	..... 1.50
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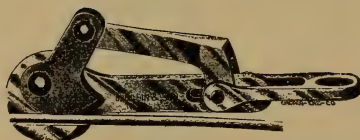




No. 2541.

**The Parallel Wire Stretcher.****No Teeth. Direct Pull. All Steel.**

Code Word.	List No.	List Price.
<i>Captor</i>	<b>2541</b>	Telephone size, carries any size up to No. 4, inclusive, cast steel, per dozen..... <b>\$ 27.00</b>
<i>Cayna</i>	<b>2265</b>	Fine tool steel, per dozen..... <b>36.00</b>
<i>Captured</i>	<b>2542</b>	Cast steel, arranged for hooks; suitable for electric light and trolley wires; carries any-size up to No. 000, inclusive, per dozen..... <b>42.00</b>



No. 2525.

**Klein's Compound Eccentrics.****Style A.**

<i>Milford</i>	<b>2525</b>	Klein's Compound Eccentric clamp, brass, each.....	<b>1.70</b>
<i>Milard</i>	<b>2526</b>	Iron, large size, each.....	<b>2.50</b>



No. 2524.

**Style B.**

For hard drawn copper wire. As both the upper and lower bearings of this clamp are made of brass, there is no danger of injuring the wire.

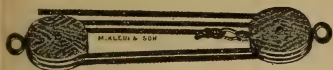
<i>Milboro</i>	<b>2524</b>	Each.....	<b>2.50</b>
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No. 15025.

**Style C.**

<i>Maryville</i>	<b>15025</b>	Light, for No. 4 B. & S. and finer, each.....	<b>3.50</b>
<i>Marquota</i>	<b>15026</b>	Heavy, for No. 0 and finer, each.....	<b>5.00</b>



No. 15030.



No. 15032.



No. 15035.



No. 6810.



No. 6818.

## Pulley Blocks with Eye

### For Attaching Separate Clamp.

Code Word.	List No.	List Price.
<i>Moscowville</i>	15030 4-inch, per pair.....	\$ 2.50
<i>Moscowville</i>	15031 5 " " ".....	4.00

## Pulley Blocks.

### With Eccentric Attached.

<i>Moscowville</i>	15032 4-inch, per pair.....	4.25
<i>Moscowville</i>	15033 5-inch, extra heavy, per pair.....	6.50

## Pulley Blocks.

### With Eccentric Attached.

<i>Moscowville</i>	15035 2 1/4-inch malleable galvanized iron, per pair.....	3.50
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## Pulley Blocks.

### GALVANIZED IRON, WITH LOOSE HOOKS.

#### Single Iron Sheaves.

<i>Dangerous</i>	6807 Diameter of rope, 1/2 inch, per dozen..	7.20
<i>Dangling</i>	6808 " " 3/8 " " " ..	10.80
<i>Daniel</i>	6809 " " 1/4 " " " ..	15.00

#### Double Iron Sheaves.

<i>Dandy</i>	6810 Diameter of rope, 1/2 inch, per dozen..	12.00
<i>Dandle</i>	6812 " " 3/8 " " " ..	18.00
<i>Danger</i>	6817 " " 1/4 " " " ..	24.00

### GALVANIZED IRON, WITH SWIVEL EYES.

#### Single Iron Sheaves.

<i>Dapper</i>	6818 Diameter of rope, 1/2 inch, per dozen..	.75
<i>Dapple</i>	6819 " " 1/4 " " " ..	1.00
<i>Dare</i>	6820 " " 3/8 " " " ..	1.75
<i>Daring</i>	6821 " " 1/2 " " " ..	2.75
<i>Darken</i>	6822 " " 3/4 " " " ..	4.00

#### Double Iron Sheaves.

<i>Darkness</i>	6823 Diameter of rope, 1/2 inch, per dozen..	1.00
<i>Darling</i>	6824 " " 1/4 " " " ..	1.50
<i>Dart</i>	6825 " " 3/8 " " " ..	2.25
<i>Darted</i>	8788 " " 1/2 " " " ..	3.50
<i>Dash</i>	8789 " " 3/4 " " " ..	5.00



No. 3663.



No. 15040.



No. 15045.



No. 15050.



No. 15052.



No. 15055.

**Stubbs' Side Cutting Pliers.**

Code Word.	List No.		List Price.
<i>Anarchist</i>	3663	4 Inch, per doz.	\$10.00
<i>Anarchy</i>	3664	4½ " "	10.00
<i>Anatomist</i>	3665	5 " "	10.00
<i>Anatomy</i>	3667	6 " "	11.00
<i>Anatron</i>	3668	7 " "	18.00
<i>Ancestor</i>	3669	8 " "	24.00
<i>Milbrook</i>	2523	9 " "	30.00

Nickel plated, 30c. per pair extra, net.

**Solid Steel Pliers.****With Raised Cutter.**

<i>Matapan</i>	15040	5-inch, per dozen	12.50
<i>Matara</i>	15041	6 " "	13.50
<i>Matara</i>	15042	7 " "	17.00
<i>Mattison</i>	15043	8 " "	20.00

**Safety Pliers.****Patent Insulation.**

<i>Mattoon</i>	15045	6-inch, per dozen	25.00
<i>Maurice</i>	15046	7 " "	33.00
<i>Mazieell</i>	15047	8 " "	40.00

Tested to insulate against a current of 2,500 volts.

**The Universal Pliers.**

<i>Mayfield</i>	15050	8-inch, per pair	1.50
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**Fry's Patent Lineman's Splicing Pliers.**

<i>Maseppa</i>	15052	8-inch, per pair	2.00
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**Patent Pliers.**

<i>Masomance</i>	15055	4½-inch, per dozen	4.20
<i>Mayford</i>	15056	6 " "	4.80
<i>Mazon</i>	15057	8 " "	6.00
<i>Meadville</i>	15058	10 " "	3.00

## Vom Cleff's All Steel Pliers.



No. 3794.

## Side Cutting.

Code Word.	List No.		List Price.
<i>Belched</i>	3794	4 Inch, per dozen	\$8.00
<i>Belching</i>	3795	4½ " "	8.00
<i>Belfry</i>	3796	5 " "	8.00
<i>Belgian</i>	3797	5½ " "	9.00
<i>Belie</i>	3798	6 " "	10.00
<i>Belied</i>	3799	6½ " "	12.00
<i>Belike</i>	3800	7 " "	14.00
<i>Belittle</i>	3801	8 " "	18.00
<i>Bellow</i>	3802	9 " "	22.30



No. 2835.

## Flat, Long Nose.

<i>Coquettish</i>	2835	3 Inch, per dozen	4.20
<i>Coquetting</i>	2836	3½ " "	4.20
<i>Cora</i>	2837	4 " "	4.20
<i>Coral</i>	2838	4½ " "	4.20
<i>Cornlite</i>	2839	5 " "	4.60
<i>Coralline</i>	2840	5½ " "	5.00
<i>Coralloid</i>	2841	6 " "	5.00



No. 2869.

## Diagonal Cutting.

<i>Corant</i>	2869	3 Inch, per dozen	8.00
<i>Corcule</i>	2870	3½ " "	8.00
<i>Cord</i>	2871	4 " "	8.00
<i>Cordage</i>	2872	4½ " "	8.00
<i>Cordate</i>	2873	5 " "	8.00
<i>Corded</i>	2874	5½ " "	9.00
<i>Cordelia</i>	2875	6 " "	10.00
<i>Cordial</i>	2876	6½ " "	11.50
<i>Cordially</i>	2877	7 " "	14.00
<i>Cordon</i>	2878	8 " "	18.00

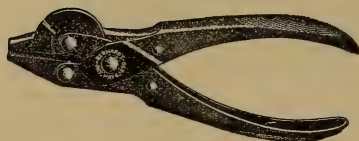


No. 2879.

## Round, Long Nose.

<i>Cordoran</i>	2879	3 Inch, per dozen	4.20
<i>Corduray</i>	2880	3½ " "	4.20
<i>Cordueain</i>	2881	4 " "	4.20
<i>Corelation</i>	2882	4½ " "	4.20
<i>Corinne</i>	2883	5 " "	4.60
<i>Corinthian</i>	2884	5½ " "	5.40
<i>Cork</i>	2885	6 " "	6.20

### Bernard's Combined Parallel and Cutting Pliers.



No. 3789.

Code Word.	List No.	Length.	Will Cut.	Width between plying jaws when open.	List Price Per Pair.
<i>Beholder</i>	3789	4½ in.	No. 9 B. & S. Wire.	¼ in.	\$ 1.57½
<i>Beholding</i>	3790	5½ "	No. 7 B. & S. Wire.	⅜ "	1.90
<i>Behoove</i>	3791	6½ "	No. 5 B. & S. Wire.	½ "	2.50
<i>Belabor</i>	3792	7½ "	No. 3 B. & S. Wire.	¾ "	4.00



No. 2688.

### Bernard's Parallel Pliers.

<i>Consummate</i>	2688	4½ inch.	1.00
<i>Consumption</i>	2689	5½ "	1.33½
<i>Consumptive</i>	2690	6½ "	1.75
<i>Contact</i>	2691	7½ "	2.50



No. 15060.

### Hall's Telegraph Pliers.

<i>Meclakling</i>	15060	8 inch.	1.20
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No. 15062

<i>Mecosta</i>	15062	8 inch.	1.80
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No. 15063.

### Fixture Pliers.

<i>Mecham</i>	15063	6 inch.	.75
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No. 2680.

### Rubber Handles for Pliers.

			Per Gross
<i>Constrictor</i>	2680	5 inch.	17.00
<i>Constructura</i>	2681	6 "	23.00
<i>Consular</i>	2682	7 "	28.80
<i>Consulate</i>	2683	8 "	36.00



## Splicing Clamps or Connectors.

 <p>M. KLEIN &amp; SON</p>	Code Word. List No.	List Price Per Pair
No. 8632.	<i>Contagion</i> 8632	For Nos. 2, 4, 6 and 8 wire..... \$ 2.00
 <p>M. KLEIN &amp; SON</p>	<i>Contagious</i> 8633	For No. 8 and finer wire..... 2.00
No. 8633.		
 <p>M. KLEIN &amp; SON</p>	<i>Contain</i> 8634	For Nos. 4, 6, 8 and 9 wire..... 2.00
No. 8634.		
 <p>M. KLEIN &amp; SON</p>	<i>Contained</i> 8635	Copper jawed, for Hard drawn copper wire No. 8 and finer.... 3.50
No. 8635.		
 <p>M. KLEIN &amp; SON.</p>	<i>Mecede</i> 15065	Combination No. 2 and McIntire connector..... 2.00
No. 15065.		
 <p>M. KLEIN &amp; SON</p>	<i>Medeira</i> 15066	Railroad, for Nos. 0, 2 and 4 wire 2.00
No. 15066.		
 <p>M. KLEIN &amp; SON.</p>	<i>Medfield</i> 15067	For McIntire joints..... 2.00
No. 15067		
 <p>M. KLEIN &amp; SON</p>	<i>Medford</i> 15068	Seven inches long, for No. 9 to 16 wire..... 1.85
No. 15068.		

**Vom Cleff Splicing Clamps.**

No. 15070

Code Word.	List No.	List Price.
<i>Mediopolis</i>	15070	4-Hole, per pair..... \$ 1.80



No. 15071.

<i>Medione</i>	15071	2-Hole, per pair,..... 1.80
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No. 2673

**McIntire's Twisting Clamps.**

<i>Effect</i>	2673	Compressing and cutting pliers, for No. 10 to No. 20 wire, per pair..... 2.10
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No. 2674.

<i>Effective</i>	2674	Twisting clamp for No. 8 to No. 16 wire, per set of 2 pair 3.60
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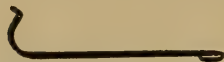
No. 2675.

<i>Effectual</i>	2675	Twisting clamp for No. 4, 5 and 6 wire, per set of 2 pair..... 4.90
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No. 2676.

<i>Effectful</i>	2676	Twisting clamp, for No. 00 to No. 6 wire, per set of 2 pair..... 8.25
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**Climbers.**

No. 2515.

<i>Millbury</i>	2515	Western pattern, per pair, no straps..... 2.00
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No. 2517.

<i>Middle</i>	2516	Straps, per set of four. 1.00
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<i>Millan</i>	2517	Eastern pattern, per pair, no straps. 3.00
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<i>Mimico</i>	2518	Straps, per set of four. 1.00
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## Double Steel Splicing Wrench.

For Iron Wire or Heavy Copper Wires.

We keep in stock two sizes, one for 4 and 6 wire and one for 8 and 9 wire. These wrenches are accurately fitted for the respective wires and will make a tight, clean splice. We have made them for as large as 00 wire.



No. 15075.

Code Word.	List No.	List Price.
<i>Medon</i>	<b>15075</b>	For stock sizes, each..... \$ 1.05
		Price large size on application.

## Steel Tie Wrench.

For Hard Drawn Copper Wire.

The purpose of this tool is to make the tie around the line wire, where it is fastened to the insulators. It will wind the tie wire around line smoothly without marring same.



No. 15076

<i>Medora</i>	<b>15076</b>	Each.....	1.05
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## Combination Lag-Screw and Nut Wrench.

<i>Medway</i>	<b>15077</b>	Each.....	1.50
		Will take lag-screws and nuts for $\frac{3}{8}$ inch, $\frac{1}{2}$ inch and $\frac{5}{8}$ inch bolts.	



No. 15077.

## Steel Lag-Screw Wrench.

This wrench is very convenient for drawing up lag-screws through cross-arms; the jaw is made tapering to accommodate variations in bolt heads.

<i>Mekers</i>	<b>15078</b>	Each.....	1.25
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No. 15078.

## Coe Wrenches.

<i>Blunted</i>	<b>3496</b>	6 inch, per dozen.....	9.00
<i>Blunting</i>	<b>3497</b>	8 " " ".....	10.00
<i>Bluntly</i>	<b>3498</b>	10 " " ".....	12.00
<i>Blur</i>	<b>3499</b>	12 " " ".....	14.00
<i>Blurred</i>	<b>3500</b>	15 " " ".....	24.00
<i>Blurring</i>	<b>3501</b>	18 " " ".....	30.00



No. 3496.



No. 2520.

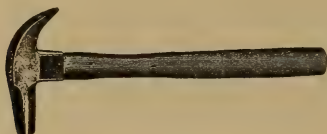
## Tree Trimmers.

<i>Minburne)</i>	<b>2520</b>	Regular, each.....	2.50
<i>Minden</i>	<b>2521</b>	Extra heavy, each.....	3.00



No. 15080.

<i>Mellon</i>	<b>15080</b>	Vom Cleff, each.....	3.00
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No. 15115.

**Electricians' Hammer.**

Code Word.	List No.	List Price. Each.
<i>Mendon</i>	15115 9-oz.....	\$ .65



No. 15116.

**Nail Hammers.****Plain Eye.**

<i>Meridola</i>	15116 12-oz.....	.50
<i>Menlo</i>	15117 15 ".....	.55
<i>Mentor</i>	15118 18 ".....	.60

**Adze Eye.**

<i>Meridith</i>	15120 13-oz.....	.70
<i>Meradosia</i>	15121 16 ".....	.75
<i>Merado</i>	15128 20 ".....	.80



No. 15122.

**Hatchets.**

<i>Meridan</i>	15122 Cut 3 $\frac{3}{4}$ inches.....	.80
<i>Meridian</i>	15123 Cut 4 $\frac{1}{4}$ ".....	.90



No. 15124.

**Hand Axes.**

<i>Merigold</i>	15124 4 $\frac{1}{2}$ inch cut.....	1.25
<i>Merom</i>	15125 5 " ".....	1.45
<i>Merian</i>	15126 5 $\frac{1}{2}$ " ".....	1.55
<i>Merricourt</i>	15127 6 " ".....	1.80



No. 15130.

**Linemen's Axe.**

<i>Merillian</i>	15130 With handle.....	1.25
<i>Merimac</i>	15132 Without handle.....	1.00



No. 24064.



No. 24065.



No. 24066.



No. 24070.



No. 24075.



No. 24076.



No. 24078.

## Dicke Tools.

### Carrying Hooks.

Code Word.	List No.	List Price.
<i>Skill</i>	24064 With Swivel, each.....	\$3.00
	Length of handle, 4 feet.	

### Cant Hooks.

<i>Skilled</i>	24065	Length 4 feet, each.....	2.25
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### Pike Poles.

<i>Skillet</i>	24066	12 feet, per doz.....	24.00
<i>Skilful</i>	24067	14 " " .....	26.00
<i>Skilling</i>	24068	16 " " .....	28.00
<i>Skilless</i>	24069	18 " " .....	30.00

### Raising Forks.

<i>Skills</i>	24070	8 feet, per doz.....	26.00
<i>Skin</i>	24071	10 " " .....	28.00
<i>Skimmer</i>	24072	12 " " .....	30.00
<i>Skimming</i>	24073	14 " " .....	32.00
<i>Skin</i>	24074	16 " " .....	34.00
		Light, stiff, and will not warp.	

### Wood Handle Tamping Bars.

<i>Skinch</i>	24075	Hardwood, iron shoe, per doz.....	25.00
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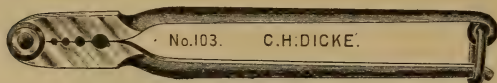
### Jenny Pole Support.

<i>Skinfint</i>	24076	6 feet, each .....	8.00
<i>Skinful</i>	24077	7½ " " .....	9.00
		Very strong and substantial.	

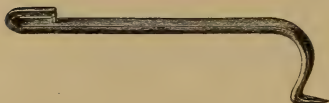
### Mule Pole Support.

<i>Skin</i>	24078	4½ feet, each .....	5.00
<i>Skinless</i>	24079	6 " " .....	6.00
<i>Skinner</i>	24080	7½ " " .....	7.00
		Light and very strong.	

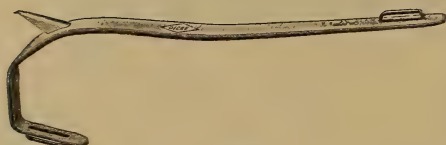




No. 24088.



No. 24091.



No. 24093.



No. 24095.



No. 24096.



No. 24098.



No. 24099.

## Dicke Tools—(Continued.)

## Splicing Clamps.

	Code Word.	List No.	List Price.
	<i>Skippingly</i>	24085	No. 100. Polished, 4 hole for No. 0 B. & S. wire and finer, per doz ..... \$30.00
	<i>Skirt</i>	24086	No. 101. Polished, 2 hole for No. 0 B. & S. wire and finer, per doz ..... 30.00
	<i>Skirting</i>	24087	No. 102. Polished, 2 hole for No. 3 B. & S. wire and finer, per doz ..... 30.00
	<i>Skirmish</i>	24088	No. 103. Polished, 4 hole, for No. 8 B. & S. wire and finer, per doz ..... 30.00
	<i>Skirmisher</i>	24089	No. 104. Polished, 4 hole, for No. 0 B. & S. wire and finer, per doz ..... 30.00
	<i>Skirret</i>	24090	No. 105. Polished, same as 104, with copper jaws, per doz ..... 50.00

## Western Climbers.

<i>Skirt</i>	24091	Without Straps, per doz. pair, 18.00
<i>Skirting</i>	24092	Straps, per dozen set, ..... 20.00

## Eastern Climbers.

<i>Skittish</i>	24093	Without Straps, per doz. pair, 24.00
<i>Skittishly</i>	24094	Straps, per dozen set, ..... 20.00

## Lag Screw Wrench.

<i>Skittles</i>	24095	Fits any size head, per doz. 16.00
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## Splicing Tool.

<i>Skice</i>	24096	Per dozen ..... 9.00
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## Howe's Improved Wire Tool.

<i>Skice</i>	24097	Wire Tightener, only (without vise), with strap, each, 4.50
<i>Skout</i>	24098	Wire Tightener, with 5½ in. Vise, with strap, each, ..... 7.00

## Eccentric Clamps.

<i>Skeed</i>	24099	For No. 9 wire and finer, per doz ..... 16.00
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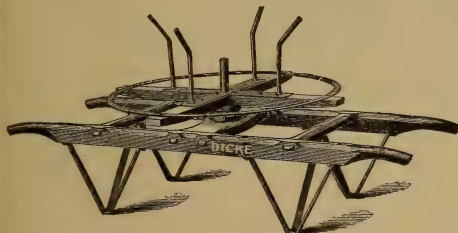


No. 24081.

Dicke Tools—(Continued.)

Common Reel.

Code Word.	List No.	List Price. Each.
<i>Skinny</i>	24081 Complete with Pins.....	\$10.00



No. 24082.

Combination Pay-Out Reel.

<i>Skinny</i>	24082½ Each .....	16.00
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No. 24083.

Take-Up Reel.

<i>Skip</i>	24083 12-inch Reel .....	20.00
<i>Skipper</i>	24084 18-inch Reel .....	22.00

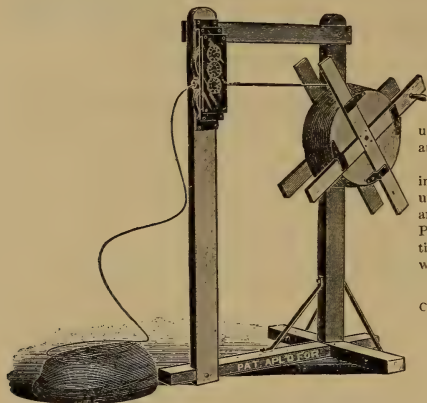


Dicke Lock Ferrule Screw Driver.

Blades forged from finest tool steel, Polished Malleable Ferrules, Fluted Handles.

Length of Blade.....	2½	3½	4½	5½	6½	8½	10½	12½			
Cabinet, per doz .....	\$3.00	\$3.50	\$4.50	\$5.50	\$6.50	\$8.00	\$9.50	\$11.00			
Length of Blade .....	2½	3½	4	5	6	7	8	9	10	11	12
Machinists, per doz ...	3.00	3.50	4.25	5.00	6.00	7.00	8.00	9.00	10.00	10.50	12.00

Blades and Handles of the Dicke Screw Driver are warranted not to turn in the ferrule.



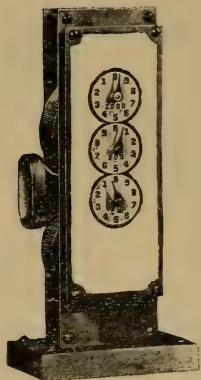
No. 24001.

### Wire Reel and Meter.

The accompanying cut gives an idea of our Wire-Measuring and Reeling Device. It will save time and money and a short use will demonstrate its great value.

In the meter the wire passes between two self-adjusting rollers, which admit of a wide range, and will measure accurately either large or small wire. The pointers are movable and readily adjusted to the zero point. Parties handling wire, either as supplies or for construction work, cannot afford to be without this device, as it will pay for itself in a short time.

Code Word.	List No.	List Price
<i>Sister</i>	<b>24001</b>	Meter, with Reel, each. .... <b>\$25.00</b>



No. 24002.

### Wire Meter for Counter.

The meter is also made, mounted on a neat base, to be used on a counter where a reel is not needed. For wire factories and dynamo builders the meter alone is invaluable.

<i>Sister</i>	<b>24002</b>	Meter, without Reel, each. .... <b>16.00</b>
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Cable Meters are made to order only, and are applicable for measuring cables of all sizes, rope or steel cables.

Special prices quoted on Cable Meters.

**"Patent" Rubber Handle Screwdrivers.**

Length given is length of blade below the handle.



No. 2529.

Code Word.	List No.		List Price.
<i>Casualness</i>	2529	2 inch, per dozen.....	\$4.20
<i>Casualist</i>	2530	3 " " .....	4.50
<i>Casualistic</i>	2531	4 " " .....	4.80
<i>Casualistical</i>	2532	5 " " .....	5.40
<i>Catacomb</i>	2533	6 " " .....	6.00
<i>Catapult</i>	2534	7 " " .....	6.60
<i>Cataract</i>	2535	8 " " .....	7.20
<i>Catarrah</i>	2536	10 " " .....	9.00
<i>Catch</i>	2537	12 " " .....	9.60

**"Vulcan" Insulated Screwdrivers.**

MOULDED MICA INSULATION.



Nos. 1164 and 1168.

<i>Catching</i>	1164	2½ inch, per dozen.....	6.00
<i>Catchword</i>	1165	3½ " " .....	7.00
<i>Catechise</i>	1166	4 " " .....	8.00
<i>Catechised</i>	1167	5 " " .....	12.00
<i>Catechism</i>	1168	6 " " .....	13.50

**Champion Screwdrivers.**

No. 2556.

<i>Luff</i>	2554	2½ inch, per dozen.....	3.00
<i>Luggage</i>	2555	3 " " .....	3.50
<i>Lugger</i>	2556	4 " " .....	4.25
<i>Luke</i>	2557	5 " " .....	5.00
<i>Lull</i>	2558	6 " " .....	6.00
<i>Lullaby</i>	2559	7 " " .....	7.00
<i>Lulled</i>	2560	8 " " .....	8.00
<i>Lumbago</i>	2561	9 " " .....	9.00
<i>Lumbering</i>	2562	10 " " .....	10.00
<i>Lumberingly</i>	2563	11 " " .....	11.00
<i>Luminary</i>	2564	12 " " .....	12.00



No. 15140.

**Pinion Screw Driver.**

Opto Word.	List No.	List Price.
<i>Mincola</i>	15140 Each.....	\$ .50



No. 15142.

**Handy Ratchet Screw Driver.**

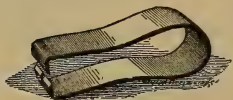
<i>Mineral</i>	15142 Each.....	.60
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No. 15143.

**Novelty Pocket Screw Driver.**

<i>Minerva</i>	15143 Each.....	.60
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No. 15148.

**Wire Peeler.**

<i>Minor</i>	15148 Each.....	50
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No. 15150.

**Electrician's Scissors.**

<i>Mingo</i>	15150 Per dozen.....	10.20
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No. 15152.

**Bell Hanger's Gimlet.**

<i>Minedasa</i>	15152 15-inch: $\frac{3}{32}$ , each.....	.60
<i>Mincola</i>	15153 15 " $\frac{10}{32}$ " .....	.80
<i>Minencakan</i>	15154 15 " $\frac{12}{32}$ " .....	.80
<i>Minock</i>	15155 24 " $\frac{8}{32}$ " .....	.80
<i>Minuka</i>	15156 24 " $\frac{10}{32}$ " .....	1.00
<i>Minster</i>	15157 24 " $\frac{12}{32}$ " .....	1.00
<i>Mishavanka</i>	15158 36 " $\frac{8}{32}$ " .....	1.00
<i>Misouta</i>	15159 36 " $\frac{10}{32}$ " .....	1.20
<i>Misourra</i>	15160 36 " $\frac{12}{32}$ " .....	1.20



No. 15162.

**Pod Bits.**

<i>Mitchell</i>	15162 18-inch: $\frac{10}{32}$ , per dozen.....	4.80
<i>Moberly</i>	15163 18 " $\frac{12}{32}$ " .....	4.80





# The "Syracuse" Electricians' Drill Bit.



THE NUMBERS INDICATE THE SIZES IN 32DS OF AN INCH.

No.	12 Inch, Per Doz.	No.	18 Inch, Per Doz.	No.	24 Inch, Per Doz.	No.	30 Inch, Per Doz.	No.	36 Inch, Per Doz.
6.....	\$5.00	6.....	\$7.00	6.....	\$9.00	6.....	\$11.00	6.....	\$13.00
8.....	5.00	8.....	7.00	8.....	9.00	8.....	11.00	8.....	13.00
10.....	5.50	10.....	7.50	10.....	9.50	10.....	12.00	10.....	13.00
12.....	6.00	12.....	8.00	12.....	10.00	12.....	12.00	12.....	13.00
14.....	7.00	14.....	9.00	14.....	11.00	14.....	13.00	14.....	14.00
16.....	8.00	16.....	10.00	16.....	12.00	16.....	14.00	16.....	15.00
18.....	9.00	18.....	11.00	18.....	13.00	18.....	15.00	18.....	16.00
20.....	10.00	20.....	12.00	20.....	14.00	20.....	15.00	20.....	16.00
22.....	11.00	22.....	13.00	22.....	15.00	22.....	16.00	22.....	17.00
24.....	12.00	24.....	14.00	24.....	16.00	24.....	17.00	24.....	18.00
26.....	13.00	26.....	15.00	26.....	17.00	26.....	18.00	26.....	18.00
28.....	14.00	28.....	16.00	28.....	18.00	28.....	19.00	28.....	19.00
30.....	15.00	30.....	17.00	30.....	19.00	30.....	20.00	30.....	20.00
32.....	16.00	32.....	18.00	32.....	20.00	32.....	20.00	32.....	20.00
34.....	17.00	34.....	19.00	34.....	20.00	34.....	20.00	34.....	20.00
36.....	18.00	36.....	20.00	36.....	21.00	36.....	21.00	36.....	21.00

## Adjustable Malleable Iron Handles.



FOR USE WHERE A BRACE IS INCONVENIENT.

List Price.  
Per dozen..... \$1.25



No. 2353.

## Automatic Boring Tools.

Code Word. List No.  
Corkscrew 2353 Automatic Boring Tool, with 8  
Drills, each..... 2.50



No. 2012.

**Amidon's Patent Corner Bit Brace.**

	Code Word.	List No.		List Price.
	<i>Conjugating</i>	2912	6-inch sweep, each.....	\$ 3.00
	<i>Conjugation</i>	2913	8 " " " " .....	3.35
	<i>Conjunct</i>	2914	10 " " " " .....	3.75



No. 2916.

**Braces—Ratchet.**

<i>Conjunction</i>	2916	7-inch sweep, per doz.....	43.20
<i>Conjunctive</i>	2917	8 " " " " .....	48.60
<i>Conjunctly</i>	2918	10 " " " " .....	54.00
<i>Conjuncture</i>	2919	12 " " " " .....	59.40
<i>Conjuration</i>	2920	14 " " " " .....	64.80



No. 2944.

**Braces—Plain.**

<i>Conjure</i>	2944	6-inch sweep, per doz.....	14.20
<i>Conjuror</i>	2945	8 " " " " .....	16.20
<i>Connate</i>	2946	10 " " " " .....	19.00
<i>Connect</i>	2947	12 " " " " .....	20.25



No. 15085.

**Draw Knives.**

<i>Melborn</i>	15085	12-inch blade, each.....	2.00
<i>Melrin</i>	15086	14 " " " " .....	2.50



No. 1748.

**Saws.**

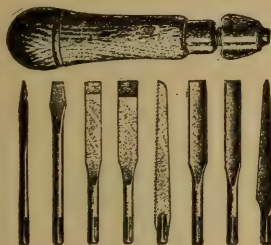
<i>Connected</i>	1748	14-inch panel saw, per doz.....	16.00
<i>Connivance</i>	1749	16 " " " " .....	17.35
<i>Connive</i>	1750	18 " " " " .....	18.75
<i>Connivency</i>	1751	20 " " " " .....	20.00
<i>Connivent</i>	1752	22 " " " " .....	21.50
<i>Conniver</i>	1753	24 " " " " .....	22.75



No. 15165.

**Inspector's Tools.**

Code Word.	List No.	List Price.
<i>Modena</i>	<b>15165</b>	Complete set in Morocco case, containing everything necessary for adjusting telephone apparatus, telegraph and stock-printing instruments, etc..... \$ 5.50
<i>Modesta</i>	<b>15166</b>	Case, only..... 1.50



No. 15170.

**Combination Handles.**

<i>Mohawk</i>	<b>15170</b>	Large size, complete..... 1.75
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No. 15175.

<i>Molton</i>	<b>15175</b>	11 Tools, complete..... 1.25
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No. 3832.

**Pipe Cutters.**

<i>Blighting</i>	<b>3832</b>	Knife, No. 2..... 3.50
<i>Blind</i>	<b>3833</b>	" " 3..... 5.80



No. 3787.

**Porter's Wire Cutters.**

<i>Behold</i>	<b>3787</b>	Porter's Easy Wire Cutters, will cut $\frac{3}{8}$ -inch wire, each 12.50
<i>Beholden</i>	<b>3788</b>	Porter's Easy Wire Cutters, will cut $\frac{1}{2}$ -inch wire, each 16.50
<i>Bodily</i>	<b>3527</b>	Heavy Wire Cutters, will cut $\frac{3}{8}$ -inch wire, each..... 20.00

## Cold Chisel.



No. 15180.

Code Word.	List No.		List Price. Each.
<i>Momence</i>	15180	3/8-inch.....	\$ .35
<i>Mona</i>	15181	1/2 " .....	.45
<i>Moncure</i>	15182	3/4 " .....	.60
<i>Monclova</i>	15183	1 " .....	.70



No. 15185.

## Socket Framing Chisel.

<i>Monster</i>	15185	1 inch.....	.90
<i>Mondamin</i>	15186	1 1/2 " .....	1.15
<i>Mondola</i>	15187	2 " .....	1.45



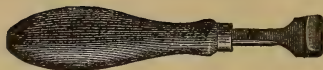
No. 15190.

<i>Monnee</i>	15190	Steel.....	1.50
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No. 15191.

<i>Monetta</i>	15191	Hollow.....	.80
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No. 15192.

## Floor Groovers.

<i>Moneka</i>	15192	.....	1.00
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No. 15193.

<i>Monnette</i>	15193	With removable knife.....	1.50
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No. 15195.

<i>Monon</i>	15195	With sinker.....	2.00
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No. 15200.

**Tool Belt.**

Code Word.	List No.	List Price Each
<i>Monongahela</i>	15200	\$ 1.25



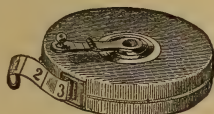
No. 15201.

**Linemen's Tool Bag.**

<i>Monongahela</i>	15201	Canvas.....	3.00
<i>Monroe</i>	15202	Leather.....	3.75

**Tape Lines.****Sole Leather-Cases.**

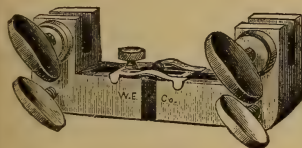
<i>Monrovia</i>	15205	25 feet.....	1.75
<i>Monsin</i>	15206	50 ".....	2.65
<i>Montague</i>	15207	100 ".....	4.20



No. 15205.

**Asses Skin, Brass Bound Case.**

<i>Montandon</i>	15210	25 feet.....	.45
<i>Montclair</i>	15211	50 ".....	.55
<i>Montbello</i>	15212	75 ".....	.85
<i>Montello</i>	15213	100 ".....	1.05



No. 15215.

**Line-Tapping Clamps.**

<i>Monteray</i>	15215	.....	4.00
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No. 15216

**Pole Counter or Tally Register.**

<i>Monterale</i>	15216	.....	3.00
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No. 8713.

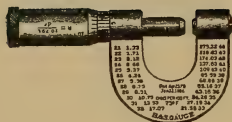
## Gauges.

Code Word.	List No.	List Price.
<i>Constitution</i>	<b>8713</b>	Self-Registering Wire Scale, guaranteed to be accurate, polished steel, each .....
		<b>\$1.25</b>



No. 8624.

<i>Constitution</i>	<b>8624</b>	American Standard Wire Gauge, 0 to 36, each..	<b>3.95</b>
<i>Constrain</i>	<b>8625</b>	" " 5 " 36, " ..	<b>2.85</b>
<i>Constrainedly</i>	<b>8626</b>	English " " 1 " 36, " ..	<b>2.25</b>
<i>Constraining</i>	<b>8627</b>	" " 6 " 36, " ..	<b>1.70</b>



No. 2392.

<i>Constrict</i>	<b>2392</b>	Micrometer Caliper, measures from .001 to 1 inch, each.....	<b>10.00</b>
<i>Casual</i>	<b>2393</b>	Micrometer Caliper, measures from .001 to 1 inch, in morocco case, each.....	<b>10.50</b>



No. 2527

<i>Constraint</i>	<b>2527</b>	Micrometer Caliper, measures from .001 to .5 inch, each.....	<b>10.00</b>
<i>Casualty</i>	<b>2528</b>	Micrometer Caliper, measures from .001 to .5 inch, in morocco case, each.....	<b>10.50</b>



No. 3205.

## Soldering Apparatus and Supplies

### W. E. Soldering Salts.

Code Word.	List No.		List Price.
<i>Arbitrate</i>	3205	In ½ pound bottles, per pound	\$0.75
<i>Arbitrator</i>	3206	In 1 " " " "	.65
<i>Arcade</i>	3207	In 5 " " " "	.50

### The S. S. Soldering Paste.

The Paste being in a soft, plastic condition, can be applied to the metal to be soldered in quantities just sufficient for the purpose. After an application of this paste the solder flows easily. The paste will not tarnish or corrode the metal.

<i>Solemnizer</i>	24457	½ pound boxes, per pound	1.40
<i>Solemnly</i>	24458	1 " " " "	1.30



No. 24459.

<i>Solemnness</i>	24459	Per stick	.25
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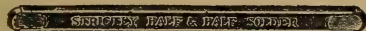
### The Allen Soldering Stick.



No. 3513.

<i>Blustrous</i>	3513	2½ pounds to the pair, per pound	.48
<i>Boar</i>	3514	3 " " " "	.48
<i>Board</i>	3515	4 " " " "	.48
<i>Boardable</i>	3516	5 " " " "	.48
<i>Boarded</i>	3517	6 " " " "	.48
<i>Boarding</i>	3518	7 " " " "	.48
<i>Boast</i>	3519	8 " " " "	.48
<i>Boaster</i>	3520	9 " " " "	.48
<i>Boastful</i>	3521	10 " " " "	.48

### Soldering Coppers, Pointed.



No. 3338.

### Solder.

AT LOWEST MARKET PRICES.

<i>Concolor</i>	3338	Strictly Half and Half	
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No. 3339.

<i>Concomitant</i>	3339	Wire Solder	
<i>Concord</i>	3340	Rosin Core Solder	



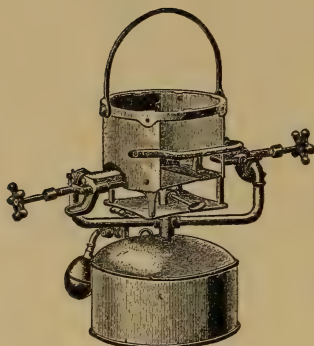
No. 15220.

**Soldering Apparatus—(Continued).**

Code Word. List No.

List Price.  
Each.

*Monterideo* 15220 Combination Hot Blast Furnace..... \$ 10.00  
Holds 1 gallon of oil



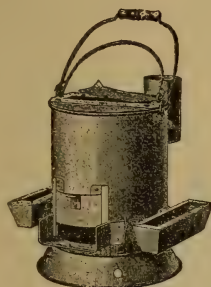
No. 3868.

*Binominal*.. 3868 Helper's Firepot. Can also be used as  
a reversible torch..... 33.00



No. 3447

*Bolstering* 3447 Wellington Soldering Furnace..... 8.00



No. 15222.

## Soldering Apparatus—(Continued)

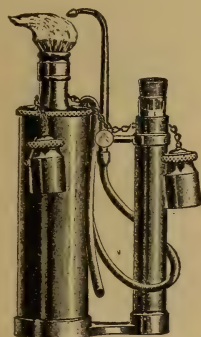
### Charcoal Soldering Furnace.

Code Word. List No.

Montgomery. 15222

List Price.  
Each.

5.00



No. 15225.

## Combination Soldering Torch.

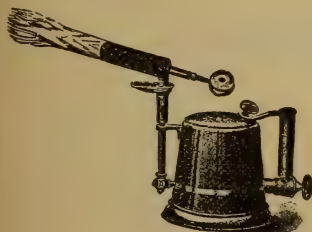
### For Alcohol.

Montcell

15225

3.00

This torch can be carried in the pocket or tool bag. The handle contains a vial for acid, doing away with carrying an extra acid bottle. The blow-pipe is adjustable and the wick large. It is made entirely of brass and highly polished.



No. 15230

Montecello

15230

Wellington Torch

7.50



No. 2522.

## Soldering Apparatus—(Continued)

Code Word.	List No.	List Price. Each.
<i>Montetich</i>	2522 Blow pipe, No. 26.....	\$ 4.00



No. 15235.

## Parts of No. 26 Blow Pipe.

<i>Montour</i>	15235 Burner, complete.....	2.00
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No. 15236.



No. 15237.

<i>Montrose</i>	15236 Burner, without head.....	1.00
<i>Montvale</i>	15237 Needle screw.....	.20



No. 15238.



No. 15234.

<i>Moorepark</i>	15238 Burner head.....	.50
<i>Moorebury</i>	15234 Drip cup.....	.25



No. 15239.

<i>Moorville</i>	15239 Air pump.....	1.00
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No. 15240.

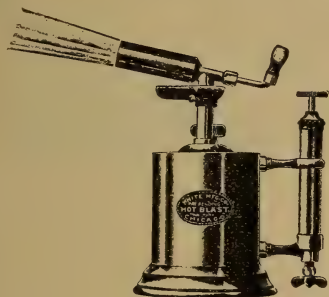


No. 15241.

<i>Moorehead</i>	15240 Air valve.....	.50
<i>Moorefield</i>	15241 Plug.....	.15



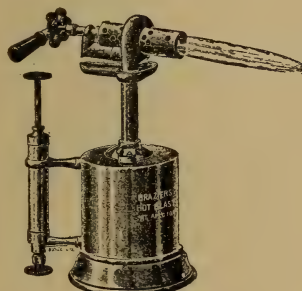
# Soldering Apparatus—(Continued.)



No. 23116.

## Imperial Hot Blast Gasoline Blow Torch.

This torch is made especially for burning paint, thawing pipes, burning lead, etc. It generates a blue flame of 1500 degrees F. The size and power of the flame can be increased or turned down to suit the work. The tank holds 1½ pints of gasoline, and is made of the best drawn brass, of 18 gauge, is seamless and highly polished. The diameter of the tank is 4½ inches, and the height to top of burner is 9 inches. It weighs 3 lbs. It is equipped with a brass pump, which has strong detachable connections, and a simple accessible valve. The torch will burn in any position, and consume ¼ pint per hour at full blast and will not blow out in the wind. The tank has a cone-shaped bottom, giving additional strength. These torches are fully tested and warranted.



No. 23117.

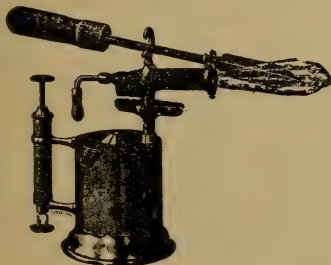
Code Word.	List No.	List Price. Each.
<i>Simplicity</i>	23116 Imperial Torch.....	\$5.00

## Braziers' Hot Blast Blow Torch.

### For Gasoline.

For brazing and tempering small tools and springs, soldering patterns, and annealing brass and other metals, heating soldering coppers, glue, burning off paint, general bench, furnace work, etc.

<i>Simplicity</i>	23117 Braziers' Torch.....	6.00
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No. 23118.

## The Combination Hot Blast Blow Torch.

### For Gasoline.

Three useful tools in one: a brazier, soldering iron heater, and blow torch for plumbers, electricians and conduit workers. Will not blow out.

<i>Simplicity</i>	23118 .....	6.00
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No. 23119.

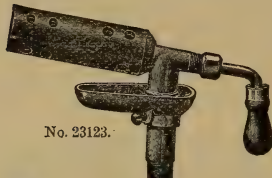


No. 23120.

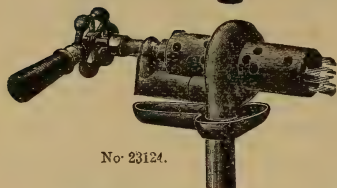


No. 23121

No. 23122.



No. 23123.



No. 23124.



No. 23125.



No. 23126 and 23127.



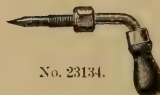
No. 23128.



No. 23129.



No. 23131.



No. 23134.



No. 23132, and 23133.

## Soldering Apparatus—(Continued.)

## The Electric "Hot Blast" Blow Torch.

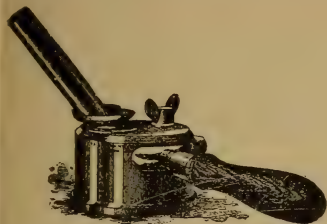
## For Gasoline.

It produces a solid blue flame. Weighs two pounds when empty, three pounds when filled. Is very strong as well as light. Will burn in any position.

Code Word.	List No.	List Price, Each.
<i>Similar</i>	23119	Hot Blast Torch. . . . . \$ 4.50

## Repair Parts to Torches.

<i>Simulate</i>	23120	No. 1. Air Pump, complete for Hot Blast Torches. . . . .	1.00
		Imperial Torches . . . . .	
		Brazier's Torches . . . . .	
		Combination Furnaces. . . . .	
<i>Simulty</i>	23121	No. 2. Lower Bracket for Pump. . . . .	.50
<i>Sim</i>	23122	No. 3. Upper Bracket for Pump. . . . .	.50
<i>Simic</i>	23123	No. 4. Burner for Imperial Blow Torch, complete. . . . .	2.50
<i>Simatic</i>	23124	No. 6a. Burner for Brazier's Blow Torch. . . . .	4.00
<i>Simapie</i>	23125	No. 9. Filler Cap for Blow Torches. . . . .	.20
<i>Simapine</i>	23126	No. 10a. Needle Valve Seat for Imperial and Brazier's Torch. . . . .	.30
<i>Simapis</i>	23127	No. 10b. Needle Valve Seat for Combination and Tinner's Furnace. . . . .	.30
<i>Simapisu</i>	23128	No. 11a. Large Packing Nut for Imperial Brazier's Torches . . . . .	.20
<i>Simce</i>	23129	No. 12a. Large Drip Cup for Imperial and Duplex Torches, and Combination and Tinner's Furnaces. . . . .	.30
<i>Simdon</i>	23130	12b. Large Drip Cup for Braziers Torch. . . . .	.30
<i>Sime</i>	23131	No. 14. Air Valve for Screw and Packing Nut for Imperial and Brazier's Torches . . . . .	.30
<i>Simeure</i>	23132	No. 16. Perforated Burner Tube for Imperial Torch. . . . .	.40
<i>Simepite</i>	23133	No. 16a. Perforated Burner Tube for Brazier's Torch. . . . .	.40
<i>Simeer</i>	23134	No. 20. Needle and Packing Nut for Imperial and Brazier's Torches. . . . .	.50



No. 8649.

## Soldering Apparatus—(Continued)

Code Word.	List No	List Price.
<i>Archangel</i>	8649	Vulcan Torch, each.....\$10.00



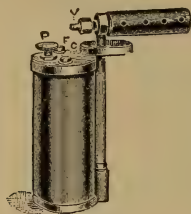
No. 8652.

<i>Christened</i>	8652	Economic Flux Bulb, for soldering acid, each.....	2.25
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No. 8653.

<i>Christening</i>	8653	Alcohol Blow Lamp, small size, each.....	2.75
<i>Christian</i>	8654	" " regular size, each.....	3.00
<i>Christianity</i>	8655	" " large " " .....	3.50
<i>Christmas</i>	8656	" " extra " " .....	4.50



No. 2388.

## Soldering Apparatus—(Continued).

Code Word.	List No.	List Price.
<i>Decouring</i>	2388	Walsh Blow Torch, each..... \$ 6.00



No. 15245.

## Uhlrich Soldering Pot.

<i>Moran</i>	15245	Each. ....	7.50
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No. 8650.

<i>Christi</i>	8650	Lineman's Torch, tin, each.....	1.85
<i>Christopher</i>	8651	" " brass, each.....	2.00



No. 2550.

<i>Carabine</i>	2550	Solder Ladles, 2½ inch. per dozen.....	2.75
<i>Caracan</i>	2551	" 3 " " .....	3.50
<i>Cardine</i>	2552	" 4 " " .....	4.75
<i>Careen</i>	2553	" 5 " " .....	6.50

## Solder Pots.



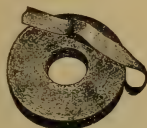
No. 3507.

<i>Blushfully</i>	3507	6 inch diameter, per dozen.....	5.20
<i>Blushing</i>	3508	6½ " " " .....	5.50
<i>Blushless</i>	3509	8 " " " .....	10.00
<i>Bluster</i>	3510	9 " " " .....	12.00
<i>Blustery</i>	3511	10½ " " " .....	16.00
<i>Blustering</i>	3512	13½ " " " .....	32.00

# Station and Workmen's Supplies.

## Tape.

IN  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{2}$ , 2 AND 3 INCHES.



Code Word.	List No.		List Price.
<i>Beamlet</i>	3638	Grimshaw, black, per pound.....	\$1.10
<i>Beantree</i>	3639	" white, " .....	1.00
<i>Beamy</i>	3640	Competition, black, " .....	.75
<i>Bean</i>	3641	" white, " .....	.75
<i>Beancaper</i>	3642	Okonite, black, " .....	2.00
<i>Beancod</i>	3643	Manson, black, " .....	1.40
<i>Beantfed</i>	3644	" white, " .....	1.40
<i>Beantfly</i>	3645	Paragon, black, " .....	.60
<i>Beangoose</i>	3646	Tenax, black, " .....	.60
<i>Bear</i>	3647	" white, " .....	.60
<i>Calamity</i>	3623	Century Tape, " .....	.90
<i>Creased</i>	8746	Kerite " per roll.....	.95
<i>Solen</i>	24460	Sampson Friction Tape, per pound.....	.75
<i>Solenaccan</i>	24461	Clifton Tape, " .....	.75
<i>Solenaceous</i>	24462	Simplex, " .....	.75
<i>Soleness</i>	24463	B. W. H., " .....	.85



## Splicing Compound.

<i>Bears</i>	3731	Chatterton's American, per pound.....	1.60
<i>Bearable</i>	3732	" Imported " .....	2.00
<i>Bear</i>	3733	Tenax Splicing Compound, in rolls, per pound..	1.00
<i>Solenite</i>	24464	Para " " " " ..	1.25





No. 24438.

Code Word.

*Solarize**Solarly**Soldah*

## Gale's Commutator Compound.

List No.

24438 Per Stick .....

24439 Per Dozen .....

24440 Per Gross .....

List Price

\$0.75

8.00

72.00



No. 8701.

*Lapidary*

## Kester's Commutator Compound.

8701 Per Stick .....

.25



## Hoffman's Rod Polish.

Will not wear the lamp rod. It is in the form of a powder, put up in tin boxes, and easily applied.

*Soldanel*

24441 Per Box .....

.30



No. 24442.



No. 24445.

## Rubber Gloves.

*Soldanrie**Soldier**Soldiering**Soldierly*

24442

24443

24444

24445

Regular Rubber, no cuffs, per dozen .....

" " with cuffs, " .....

Heavy " no cuffs, " .....

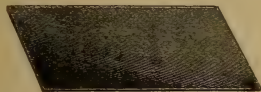
" " with cuffs, " .....

13.00

16.50

24.00

30.00

**Hard Rubber Sheet.**

Size of Sheets 20x48 inches.

Code Word.	List No.	Thickness.	Approximate weight of full sheets.	List Price. Per Pound.
<i>Hyattsville</i>	13210	$\frac{3}{8}$ inch	1 $\frac{1}{2}$ pound.	\$ 2.10
<i>Hyndman</i>	13211	$\frac{1}{8}$ "	2 $\frac{3}{4}$ "	2.00
<i>Hyndsville</i>	13212	$\frac{3}{8}$ "	3 $\frac{7}{8}$ "	2.00
<i>Iberia</i>	13213	$\frac{1}{8}$ "	4 $\frac{3}{8}$ "	2.00
<i>Icamole</i>	13214	$\frac{1}{8}$ "	5 $\frac{1}{2}$ "	2.00
<i>Idalia</i>	13215	$\frac{5}{8}$ "	6 "	2.00
<i>Idleveld</i>	13216	$\frac{3}{8}$ "	7 $\frac{1}{2}$ "	2.00
<i>Ignacio</i>	13217	$\frac{1}{8}$ "	10 $\frac{1}{2}$ "	2.00
<i>Ilion</i>	13218	$\frac{5}{8}$ "	13 $\frac{1}{4}$ "	2.00
<i>Ilitopolis</i>	13219	$\frac{3}{8}$ "	16 $\frac{1}{2}$ "	2.00
<i>Independence</i>	13220	$\frac{7}{8}$ "	18 $\frac{3}{4}$ "	2.00
<i>Indianola</i>	13221	$\frac{1}{8}$ "	22 "	2.00
<i>Ingrams</i>	13222	$\frac{3}{8}$ "	24 "	2.00
<i>Ingalls</i>	13223	$\frac{5}{8}$ "	27 "	2.00
<i>Ingallton</i>	13224	$\frac{3}{8}$ "	32 "	2.00
<i>Ingersoll</i>	13225	$\frac{7}{8}$ "	35 "	2.00
<i>Ingleside</i>	13226	1 "	40 "	2.00
<i>Inksater's</i>	13227	1 $\frac{1}{4}$ "	50 "	2.00

**Vulcanized Fibre Sheet.**

Size of Sheets 40x70 inches.

**Indian Red or White.**

For convenience in shipping we prefer to cut sheets in halves or quarters

		Thickness.	
<i>Interlochen</i>	13235.	1 $\frac{1}{8}$ inch.	.60
<i>Inwood</i>	13236	$\frac{3}{4}$ "	.60
<i>Iola</i>	13237	$\frac{3}{8}$ "	.60
<i>Ione</i>	13238	$\frac{1}{8}$ "	.50
<i>Ionis</i>	13239	$\frac{1}{8}$ "	.50
<i>Ipava</i>	13240	$\frac{1}{8}$ "	.50
<i>Ipswich</i>	13241	$\frac{1}{8}$ "	.50
<i>Iredell</i>	13242	$\frac{3}{8}$ "	.60
<i>Ironation</i>	13243	$\frac{3}{8}$ "	.60
<i>Irondale</i>	13244	$\frac{7}{8}$ "	.60
<i>Ironton</i>	13245	1 "	.65
<i>Irolo</i>	13246	1 $\frac{1}{4}$ "	.65
<i>Iroquois</i>	13247	1 $\frac{1}{2}$ "	.75

Black, 5 cents per pound advance.



## Hard Rubber Rods.

In lengths of 30 inches.

Code Word	List No.	Diameter	Approximate Weight, per Per 100 Feet.	List Price.
Ireineton	13260	$\frac{1}{8}$ inch	$\frac{3}{4}$ pounds per pound.....	\$ 1.80
Ireiny	13261	$\frac{3}{16}$ "	1 $\frac{1}{2}$ " " " " " " " "	1.80
Ireington	13262	$\frac{1}{4}$ "	2 $\frac{3}{4}$ " " " " " " " "	1.50
Ireona	13263	$\frac{5}{16}$ "	4 " " " " " " " "	1.50
Ireirin	13264	$\frac{3}{8}$ "	6 $\frac{1}{2}$ " " " " " " " "	1.50
Isabel	13265	$\frac{7}{16}$ "	8 " " " " " " " "	1.50
Isipeminy	13266	$\frac{1}{2}$ "	10 $\frac{1}{2}$ " " " " " " " "	1.40
Isleta	13280	$\frac{9}{16}$ "	12 $\frac{3}{4}$ " " " " " " " "	1.40
Islington	13281	$\frac{5}{8}$ "	16 " " " " " " " "	1.35
Islip	13267	$\frac{11}{16}$ "	19 $\frac{1}{4}$ " " " " " " " "	1.35
Ithica	13269	$\frac{3}{4}$ "	22 $\frac{3}{4}$ " " " " " " " "	1.35
Ithican	13270	$\frac{13}{16}$ "	27 $\frac{3}{4}$ " " " " " " " "	1.35
Iuka	13271	$\frac{7}{8}$ "	29 $\frac{1}{4}$ " " " " " " " "	1.35
Jackman	13272	$\frac{15}{16}$ "	36 $\frac{1}{2}$ " " " " " " " "	1.35
Jacksonboro	13273	1 "	42 " " " " " " " "	1.25
Jacksonport	13274	1 $\frac{1}{4}$ "	65 $\frac{1}{2}$ " " " " " " " "	1.25
Jalapa	13275	1 $\frac{1}{2}$ "	92 $\frac{1}{2}$ " " " " " " " "	1.25
Jamaica	13276	1 $\frac{3}{4}$ "	128 " " " " " " " "	1.25
Jamesbury	13277	2 "	1 rod 4 " " " " " " " "	1.25
Jameson	13278	2 $\frac{1}{4}$ "	1 " 5 $\frac{1}{2}$ " " " " " " " "	1.25
Jamesport	13279	2 $\frac{3}{4}$ "	1 " 6 $\frac{1}{4}$ " " " " " " " "	1.25

## Vulcanized Fibre Rod.

Red, Random Lengths.

	Diameter.		
Jameson	13285	$\frac{1}{4}$ inch, per foot.....	12
Janison	13286	$\frac{5}{16}$ " " " " " " " "	14
Jarat	13287	$\frac{3}{8}$ " " " " " " " "	16
Jarris	13288	$\frac{7}{16}$ " " " " " " " "	18
Jaudon	13289	$\frac{7}{16}$ " " " " " " " "	18
Jeddo	13290	$\frac{1}{2}$ " " " " " " " "	24
Jefferson	13291	$\frac{17}{32}$ " " " " " " " "	26
Jenkinson	13292	$\frac{9}{16}$ " " " " " " " "	28
Jennings	13293	$\frac{5}{8}$ " " " " " " " "	34
Jenny	13294	$\frac{11}{16}$ " " " " " " " "	40
Jericho	13295	$\frac{3}{4}$ " " " " " " " "	48
Jermyn	13296	$\frac{7}{8}$ " " " " " " " "	64
Jerome	13297	1 " " " " " " " "	84
Jerusalem	13298	1 $\frac{1}{4}$ " " " " " " " "	1.30
Jesup	13299	1 $\frac{3}{8}$ " " " " " " " "	1.60

Black fibre can be furnished on application.

## Hard Rubber Battery Cells.

Livermore	13993	2 $\frac{1}{2}$ x 6 $\frac{1}{2}$ x 9 $\frac{1}{2}$ , each.....	1.20
Livingston	13994	3 $\frac{1}{2}$ x 5 $\frac{1}{2}$ x 10 $\frac{1}{2}$ , each.....	1.50
Livonia	13995	4 x 4 x 6 $\frac{1}{4}$ , each.....	1.80
Llano	13996	5 $\frac{1}{4}$ x 5 $\frac{1}{4}$ x 7 $\frac{1}{2}$ , each.....	2.00



## Tubing.

### Hard Rubber Tubing.

In Lengths of 24 Inches.



Code Word.	List No.	Outside Diam.	Inside Diam.	Approx. No. of Feet per lb.	List Price, Per pound.
<i>Bloat</i>	3481	$\frac{3}{8}$ inch.	$\frac{1}{8}$ inch.	20.....	\$ 1.20
<i>Bloated</i>	3482	$\frac{1}{2}$ "	$\frac{1}{4}$ "	14.....	1.20
<i>Bloater</i>	3483	$\frac{1}{2}$ "	$\frac{5}{8}$ "	16.....	1.20
<i>Blobber</i>	3484	$\frac{3}{4}$ "	$\frac{3}{8}$ "	10.....	1.20
<i>Blitheful</i>	3485	$\frac{3}{4}$ "	$\frac{1}{2}$ "	8.....	1.20
<i>Blithely</i>	3486	$\frac{7}{8}$ "	$\frac{5}{8}$ "	8.....	1.20
<i>Blithesome</i>	3487	1 "	$\frac{3}{4}$ "	6.....	1.20
<i>Bunnacle</i>	3488	$1\frac{1}{8}$ "	$\frac{7}{8}$ "	6.....	1.20

### Vulcanized Fibre Tubing.

Length about 22 inches,  $\frac{1}{16}$  to  $\frac{3}{16}$ -inch walls.

		Inside Diam.		
<i>Jewett</i>	13310	$\frac{1}{4}$ inch.....		1.00
<i>Joab</i>	13311	$\frac{3}{8}$ ".....		1.00
<i>Jobstown</i>	13312	$\frac{1}{2}$ ".....		1.00
<i>Johnston</i>	13313	$\frac{5}{8}$ ".....		1.00
<i>Johnson</i>	13314	$\frac{3}{4}$ ".....		1.00
<i>Jolley</i>	13315	1 ".....		1.00
<i>Jonesboro</i>	13316	$1\frac{1}{4}$ ".....		1.00
<i>Joplin</i>	13317	$1\frac{1}{2}$ ".....		1.00



### Okonite Tubing.

Approx. No. of Feet per lb.

<i>Allowance</i>	3249	$\frac{1}{8}$ inch.	35 feet.....	2.00
<i>Allowing</i>	3250	$\frac{1}{4}$ "	17 ".....	2.00
<i>Alloy</i>	3251	$\frac{5}{16}$ "	14 ".....	2.00
<i>Alloyage</i>	3252	$\frac{3}{8}$ "	$11\frac{1}{2}$ ".....	2.00
<i>Alloyed</i>	3253	$\frac{1}{2}$ "	10 ".....	2.00
<i>Allo</i>	3254	$\frac{5}{8}$ "	8 ".....	2.00
<i>Alspice</i>	3255	$\frac{3}{4}$ "	$4\frac{1}{2}$ ".....	2.00
<i>Allude</i>	3256	$\frac{7}{8}$ "	4 ".....	2.00
<i>Alluding</i>	3257	1 "	3 ".....	2.00

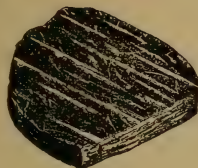


### Soft Rubber Tubing.

		Inside Diam.	Covers Wire.	Approx. No. of Feet per lb.	
<i>Branding</i>	3475	$\frac{1}{8}$ inch.	No. 20 B. & S. G.,	100.....	1.35
<i>Brandy</i>	3476	$\frac{1}{4}$ "	" 14 "	" 50.....	.85
<i>Bravado</i>	3477	$\frac{1}{4}$ "	" 10 "	" 20.....	.85
<i>Brave</i>	3478	$\frac{5}{16}$ "	" 6 "	" 15.....	.85
<i>Bravely</i>	3479	$\frac{3}{8}$ "	" 4 "	" 12.....	.85
<i>Bridget</i>	3480	$\frac{1}{2}$ "	" 0 "	" 9.....	.85







## Standard Price List

OF

## Electrical Mica.

Size.	Price per lb.	Size.	Price per lb.	Size.	Price per lb.	Size.	Price per lb.	Size.	Price per lb.	Size.	Price per lb.
1 1/2 x 3	\$0 60	2 x 2 1/2	\$0 60	2 1/2 x 7 1/2	\$5 00	2 1/2 x 5	\$5 00	3 1/2 x 5 1/2	\$7 75	4 1/2 x 7	\$9 75
1 1/2 x 3 1/2	65	2 x 2 1/2	65	2 1/2 x 8	5 50	2 1/2 x 5 1/2	5 25	3 1/2 x 6	8 50	4 1/2 x 8	10 00
1 1/2 x 3 1/2	70	2 x 2 1/2	70	2 1/2 x 8 1/2	6 25	2 1/2 x 5 1/2	5 50	3 1/2 x 7	8 75	4 1/2 x 9	10 25
1 1/2 x 3 1/2	75	2 x 3	75	2 1/2 x 9	6 75	2 1/2 x 6	6 00	3 1/2 x 8	9 00	4 1/2 x 10	11 25
1 1/2 x 4	90	2 x 3 1/2	80	2 1/2 x 9 1/2	7 50	2 1/2 x 6 1/2	6 25	3 1/2 x 9	9 50	4 1/2 x 11	12 00
1 1/2 x 4 1/2	1 00	2 x 3 1/2	90	2 1/2 x 10	8 00	2 1/2 x 7	6 75	3 1/2 x 10	10 50	4 1/2 x 12	13 00
1 1/2 x 4 1/2	1 15	2 x 3 1/2	1 00	2 1/2 x 11	8 50	2 1/2 x 7 1/2	7 25	3 1/2 x 11	12 00	5 x 5	8 50
1 1/2 x 5	1 50	2 x 4	1 20	2 1/2 x 12	9 50	2 1/2 x 8	7 75	3 1/2 x 12	12 50	5 x 5 1/2	9 00
1 1/2 x 5 1/2	1 90	2 x 4 1/2	1 25	2 1/2 x 2 1/2	85	2 1/2 x 8 1/2	8 75	3 1/2 x 3 1/2	4 50	5 x 6	9 50
1 1/2 x 6	2 40	2 x 4 1/2	1 40	2 1/2 x 2 1/2	1 00	2 1/2 x 9	9 00	3 1/2 x 3 1/2	5 00	5 x 6 1/2	9 75
1 1/2 x 6 1/2	3 00	2 x 4 1/2	1 50	2 1/2 x 3	1 25	2 1/2 x 9 1/2	9 50	3 1/2 x 4	6 00	5 x 7	10 00
1 1/2 x 7	4 00	2 x 5	1 75	2 1/2 x 3 1/2	1 35	2 1/2 x 10	10 00	3 1/2 x 4 1/2	6 25	5 x 8	10 25
1 1/2 x 7 1/2	4 50	2 x 5 1/2	2 40	2 1/2 x 3 1/2	1 50	2 1/2 x 11	11 00	3 1/2 x 4 1/2	6 50	5 x 9	10 50
1 1/2 x 8	4 75	2 x 6	3 00	2 1/2 x 3 1/2	1 60	2 1/2 x 12	11 50	3 1/2 x 4 1/2	7 00	5 x 10	11 00
1 1/2 x 8 1/2	5 25	2 x 6 1/2	3 50	2 1/2 x 4	1 75	3 x 3	2 50	3 1/2 x 5	7 50	5 x 11	12 00
1 1/2 x 9	5 75	2 x 7	4 50	2 1/2 x 4 1/2	2 00	3 x 3 1/2	2 75	3 1/2 x 5 1/2	8 25	5 x 12	13 50
1 1/2 x 9 1/2	6 50	3 x 7 1/2	4 75	2 1/2 x 4 1/2	2 50	3 x 3 1/2	3 25	3 1/2 x 6	8 75	5 1/2 x 5 1/2	9 25
1 1/2 x 10	7 00	2 x 8	5 00	2 1/2 x 4 1/2	3 00	3 x 3 1/2	3 75	3 1/2 x 6 1/2	8 75	5 1/2 x 6	9 75
1 1/2 x 11	7 75	2 x 8 1/2	5 75	2 1/2 x 5	3 50	3 x 4	5 00	3 1/2 x 7	9 00	5 1/2 x 7	10 25
1 1/2 x 12	8 75	2 x 9	6 25	2 1/2 x 5 1/2	3 60	3 x 4 1/2	5 25	3 1/2 x 8	9 25	5 1/2 x 8	10 50
1 1/2 x 3	70	2 x 9 1/2	7 00	2 1/2 x 5 1/2	3 75	3 x 4 1/2	6 00	3 1/2 x 9	9 50	5 1/2 x 9	10 75
1 1/2 x 3 1/2	75	2 x 10	7 50	2 1/2 x 6	4 25	3 x 4 1/2	6 50	3 1/2 x 10	10 75	5 1/2 x 10	11 50
1 1/2 x 3 1/2	85	2 x 11	8 25	2 1/2 x 6 1/2	4 50	3 x 5	7 00	3 1/2 x 11	12 00	5 1/2 x 11	12 00
1 1/2 x 3 1/2	1 00	2 x 12	9 25	2 1/2 x 7	5 00	3 x 5 1/2	7 50	3 1/2 x 12	13 00	5 1/2 x 12	13 50
1 1/2 x 4	1 10	2 1/2 x 2 1/2	60	2 1/2 x 7 1/2	5 25	3 x 6	8 00	4 x 4	7 00	6 x 6	10 00
1 1/2 x 4 1/2	1 15	2 1/2 x 2 1/2	65	2 1/2 x 8	5 50	3 x 6 1/2	8 25	4 x 4 1/2	7 25	6 x 6 1/2	10 25
1 1/2 x 4 1/2	1 25	2 1/2 x 2 1/2	70	2 1/2 x 8 1/2	6 50	3 x 7	8 50	4 x 5	7 75	6 x 7	10 50
1 1/2 x 4 1/2	1 40	2 1/2 x 3	1 00	2 1/2 x 9	7 00	3 x 8	8 75	4 x 5 1/2	8 50	6 x 8	10 75
1 1/2 x 5	1 75	2 1/2 x 3 1/2	1 15	2 1/2 x 9 1/2	7 50	3 x 9	9 00	4 x 6	9 00	6 x 9	11 00
1 1/2 x 5 1/2	2 15	2 1/2 x 3 1/2	1 30	2 1/2 x 10	8 00	3 x 10	10 50	4 x 6 1/2	9 25	6 x 10	11 50
1 1/2 x 6	2 75	2 1/2 x 3 1/2	1 45	2 1/2 x 11	8 75	3 x 11	12 00	4 x 7	9 50	6 x 11	12 00
1 1/2 x 6 1/2	3 25	2 1/2 x 4	1 60	2 1/2 x 12	10 00	3 x 12	12 50	4 x 8	9 75	6 x 12	14 00
1 1/2 x 7	4 35	2 1/2 x 4 1/2	1 75	2 1/2 x 2 1/2	1 25	3 1/2 x 3 1/2	3 50	4 x 9	10 00	7 x 7	10 75
1 1/2 x 7 1/2	4 50	2 1/2 x 4 1/2	2 00	2 1/2 x 3	1 75	3 1/2 x 3 1/2	4 00	4 x 10	11 00	7 x 7 1/2	10 75
1 1/2 x 8	4 75	2 1/2 x 4 1/2	2 25	2 1/2 x 3 1/2	2 00	3 1/2 x 3 1/2	4 50	4 x 11	12 00	7 x 8	11 00
1 1/2 x 8 1/2	5 50	2 1/2 x 5	2 75	2 1/2 x 3 1/2	2 25	3 1/2 x 4	5 25	4 x 12	13 00	7 x 9	11 25
1 1/2 x 9	6 00	2 1/2 x 5 1/2	2 85	2 1/2 x 3 1/2	2 50	3 1/2 x 4 1/2	5 50	4 1/2 x 4 1/2	7 50	7 x 10	12 00
1 1/2 x 9 1/2	6 75	2 1/2 x 5 1/2	3 00	2 1/2 x 4	3 00	3 1/2 x 4 1/2	6 00	4 1/2 x 5	8 25	7 x 11	12 50
1 1/2 x 10	7 25	2 1/2 x 6	3 40	2 1/2 x 4 1/2	3 25	3 1/2 x 4 1/2	6 50	4 1/2 x 5 1/2	8 75	8 x 8	12 00
1 1/2 x 11	8 00	2 1/2 x 6 1/2	3 65	2 1/2 x 4 1/2	3 75	3 1/2 x 5	7 25	4 1/2 x 6	9 25	8 x 9	12 50
1 1/2 x 12	9 00	2 1/2 x 6 1/2	3 90	2 1/2 x 4 1/2	4 25	3 1/2 x 5 1/2	7 50	4 1/2 x 6 1/2	9 50	8 x 10	13 00
2 x 2	60	2 1/2 x 7	4 75								

All Larger, Special Prices.



No. 3604.

## Galvanized Oil Waste Cans.

Self-Closing Cover.

WITH IMPROVED SPRING ATTACHMENT.

The "Iron-Clad" Oil Waste Cans are made without the use of Solder and are galvanized after being put together. They are recommended by the leading insurance companies.

Code Word.	List No.	Round.	List Price.
Ancestral	3604	No. 1, 11½x15 inches, per doz.....	\$18.00

### Round.

Made to Order Only.

<i>Dab</i>	554	No. 2, 12x18 inches, per doz.....	24.00
<i>Dabble</i>	555	" 3, 13x20 " " .....	28.00
<i>Daft</i>	556	" 4, 14x22 " " .....	36.00
<i>Dagger</i>	557	" 5, 16x24 " " .....	42.00
<i>Daily</i>	558	" 6, 18x26 " " .....	56.00
<i>Daintily</i>	559	" 7, 20x30 " " .....	90.00
<i>Daisy</i>	560	" 8, 24x36 " " .....	130.00

### Rectangular.

		Length.	Width.	Depth.	
		in.	in.	in.	
<i>Daker</i>	561	No. 30, per doz. 30	15	20	70.00
<i>Dale</i>	562	" 40, " 20	18	24	90.00
<i>Daily</i>	563	" 50, " 24	20	30	132.00
<i>Damage</i>	564	" 60, " 26	22	30	140.00
<i>Damaging</i>	565	" 70, " 28	24	34	170.00
<i>Damask</i>	566	" 80, " 30	24	36	190.00

## The Model Oil Filter.

It can be operated with or without heat, although it is preferable to use heat at all times, as it greatly facilitates the flow of oil, and assists in separating it from all sediment, grit and dirt.

The steam heating pipes are independent of filter. We place them on top of the stand, under the filter, where the coil gives all the heat required and can be easily connected or disconnected. By doing this we avoid all trouble that is caused by defective and leaky joints where steam pipes pass through wall of filter.

It is self cleaning, as it is so constructed that all dirt, grit and sediment in the oil as it passes through the separating chambers is trapped to the bottom and is drawn off through a waste cock.

The supply of waste oil to separating chamber can be regulated to feed fast or slow. All heavy or gummy oils require more time to filter than light oils.

It can be used for an oil tank, for the clean oil chamber is large enough to hold all the oil required in an engine room.



No. 3454.

<i>Blown</i>	3454	10 gallons.....	35.00
<i>Blubber</i>	3455	30 " .....	50.00
<i>Blubbered</i>	3456	60 " .....	65.00

Larger Sizes Made to Order.



No. 3834.

## Oiler Sets.

These Engineers' Sets are made of heavy brass and handsomely finished.

Code Word.	List No.	List Price.
<i>Blessing</i>	3834 Five Pieces, Brass.....	\$6.00
<i>Blest</i>	3835 Six " " .....	9.00
<i>Blight</i>	853 Five " Nickel.....	8.00
<i>Blighted</i>	854 Six " " .....	11.00



No. 3838.

## Engineers' Fillers, Brass.

<i>Blessedly</i>	3838 Heavy Brass, One Quart, each.....	2.00
<i>Blessor</i>	3839 " " Two Quarts " .....	3.00



No. 3452.

## Engineers' Fillers, Steel.

<i>Blistered</i>	3452 Pint Fillers, $4\frac{1}{2}$ in. diameter, $3\frac{1}{2}$ in. high, Screw Top, per doz.....	14.00
<i>Blistering</i>	3453 Quart Fillers, 5 in. diameter, 5 in. high, Screw Top, per doz.....	20.00

## Brass.

<i>Blister</i>	3450 $1\frac{1}{2}$ Pint Fillers, $4\frac{1}{2}$ in. diameter, 4 in. high, Screw Top, per doz.....	22.00
<i>Blithe</i>	3451 Quart Fillers, 5 in. diameter, 5 in. high, Screw Top, per doz.....	30.00

## Steel.

<i>Bled</i>	3840 Steel Oiler, $4\frac{1}{2}$ in. diam., 3 in. nozzle, per doz....	9.25
<i>Blemish</i>	3841 " $4\frac{1}{2}$ " 9 " " .....	10.50



No. 3840.

## Brass.

<i>Bless</i>	3842 Brass Oilers, $4\frac{1}{2}$ in. diam., 3 in. nozzle, per doz...	12.00
<i>Blessed</i>	3843 " $4\frac{1}{2}$ " 9 " " .....	14.00



No. 3844.

### Oilers Sets—(Continued).

#### Steel.

Code Word.	List No.		List Price.
<i>Blatter</i>	3844	Steel Oiler, 2½ in. diam., 2½ in. nozzle, per doz.	\$4.50
<i>Blaze</i>	3845	" 3½ " 3 " "	5.50
<i>Blazed</i>	3846	" 3½ " 9 " "	6.50
<i>Blazer</i>	3847	" 3½ " 3 " "	7.50
<i>Blazing</i>	3848	" 3½ " 9 " "	8.50

#### Brass.

<i>Blazon</i>	3849	Brass Oilers, 2½ in. diam., 2½ in. nozzle, per doz.	6.50
<i>Beat</i>	3850	" 3½ " 3 " "	8.00
<i>Beating</i>	3851	" 3½ " 9 " "	9.20

### Upright Locomotive Oiler.

The flow of oil from this is controlled by a valve so the oil only runs out when you press the thumb piece on top of the handle.



No. 3852.

#### Brass.

<i>Blast</i>	3852	1 Pint, Brass, with valve, per dozen	36.00
<i>Blasted</i>	3853	2 " " " "	48.00
<i>Blaster</i>	3854	3 " " " "	60.00
<i>Blasting</i>	3855	1 " " no valve " "	24.00
<i>Blastpipe</i>	3856	2 " " " "	36.00
<i>Blatant</i>	3857	3 " " " "	48.00

#### Tin.

<i>Biology</i>	3858	1 Pint, Tin, with valve, per dozen	24.00
<i>Birch</i>	3859	2 " " " "	33.00
<i>Birchen</i>	3860	3 " " " "	45.00
<i>Bird</i>	3861	1 " " no valve, " "	12.00
<i>Birch</i>	3862	2 " " " "	21.00
<i>Blanche</i>	3863	3 " " " "	33.00

### Railroad Oiler.

#### Steel.

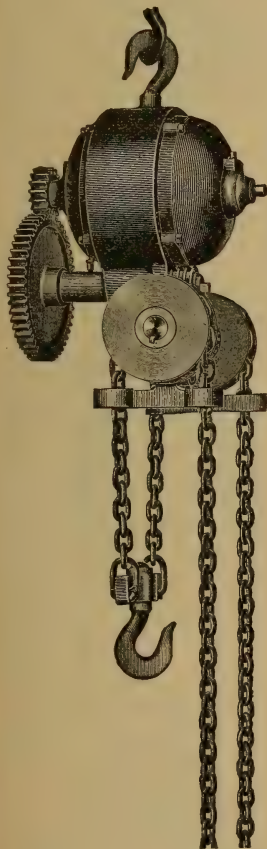
<i>Biographer</i>	3864	Pint R. R. Oiler, 3½ in. diam., 5 in. high, 12 in. nozzle, per dozen	14.00
<i>Biographic</i>	3865	Quart R. R. Oiler, 4½ in. diam., 6 in. high, 18 in. nozzle, per dozen	18.00

#### Brass.

<i>Biographical</i>	3866	Pint R. R. Oiler, 3½ in. diam., 5 in. high, 12 in. nozzle, per dozen	18.00
<i>Biography</i>	3867	Quart R. R. Oiler, 4½ in. diam., 6 in. high, 18 in. nozzle, per dozen	21.00



No. 3864.



## Lounsbury Electric Hoist.

This device is designed to take the place of the Hand Chain Hoist, Horse Power Hoist, etc., etc., being much cheaper, and quicker in operation than any hoisting apparatus of the same capacity on the market. The motor frame and sheave bearings are cast in one piece of high-grade steel, with a guaranteed tensile strength of 70,000 lbs. per square inch. The Motor is multi-polar, is entirely enclosed, and is dust and moisture proof. The armature is of the slotted or "iron-clad" type and will stand a fifty per cent. overload for a short time without danger. The motor bearings are self-oiling. The chain is machine-forged and registers accurately with the sprockets. It is tested to double its rated capacity. A rawhide pinion is used on the motor shaft, making the machine smooth and noiseless in operation. It will do the work of three men with a hand chain hoist, and do it much faster.

Price includes controlling rheostat and reversing switch. 110 or 220 volts.

Code Word.	List No.	List Price. Each.
<i>Snowball</i>	24435 One Ton, hoisting 10 feet per minute.....	\$200.00
<i>Snowblind</i>	24436 Two " " 6 " " .....	225.00
<i>Snowbroth</i>	24437 Three " " 4 " " .....	250.00

## Electric Crane Motor.

A traveling Crane has been designed with a motor similar to the one used in the Hoist. This Electric Crane travels on an I beam. To the Crane is attached the Electric Hoist. By means of this combination the Hoist can be placed over any one of a number of dynamos.

Special prices quoted on application.



# CONSTRUCTION MATERIAL.

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No. 2348

## Insulators—Glass.

Code Word.	List No.	List Price
<i>Elm</i>	2348 Regular, per 1,000.....	\$40.00
	Packed 250 in a barrel.	



No. 2349

<i>Elongate</i>	2349 Deep Groove, per 1,000.....	45.00
	Packed 200 in a barrel.	



No. 2350

<i>Elopement</i>	2350 Western Union, per 1,000.....	50.00
	Packed 200 in a barrel.	



No. 2351

**Insulators—Glass—(Continued)**

Code Word.	List No.	List Price.
<i>Eloquence</i>	2351 Pony, per 1,000 .....	\$22.50
	Packed 300 in a barrel.	



No. 2352

<i>Eloquent</i>	2352 Double Petticoat, per 1,000 .....	55.00
	Packed 165 in a barrel.	



No. 3872

<i>Billion</i>	3872 Deep Groove, Double Petticoat, per 1,000.....	50.00
	Packed 175 in a barrel.	



No. 3719

**Insulators—Glass—(Continued).**

Code Word.	List No.	List Price.
<i>Beamless</i>	3719 Extra D. G., D. P., per 1,000.....	\$50.00
	Packed 165 in a barrel.	



No. 2354

<i>Elsewhere</i>	2354 Pony, Double Petticoat, per 1,000.....	27.50
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No. 2334

<i>Emmelins</i>	2334 National Pony, per 1,000.....	40.00
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No. 2335

<i>Eminent</i>	2335 Pony Duplex, per 1,000.....	45.00
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No. 15301.—

**Insulators—Glass—(Continued).****Hemingray.**

Code Word.	List No.	List Price, per 1,000.
<i>Moravia</i>	15300 No. 3, Regular.....	\$ 36.00
<i>Morhend</i>	15301 No. 7 Standard.....	32.00

Packed 250 in a barrel.



No. 15302.—

<i>Moreeni</i>	15302 Standard, deep groove.....	36.00
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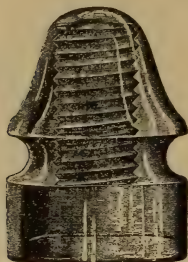
Packed 250 in a barrel.



No. 15305.

<i>Morganton</i>	15305 Deep groove, double petticoat.....	40.00
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Packed 200 in a barrel.



No. 15308.-

**Insulators—Glass—(Continued).****Hemingray.**

Code Word.	List No.	List Price.
<i>Morian</i>	<b>15308</b>	Street railway, deep groove, double petti coat..... per 1,000.
		<b>\$ 50.00</b>
		Packed 200 in a barrel.



No. 15310.—

<i>Moro</i>	<b>15310</b>	Western Union Double petticoat, teat....	<b>50.00</b>
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The points or teats on the lower rim of the petticoat attract the water on the outer surface of the insulator into drops. The water drops from these points, thereby preventing the moisture from creeping up on the inner petticoat, and thence to the pin.

Other insulators can be made in same manner at special prices.



No. 15312.—

<i>Morell</i>	<b>15312</b>	Pony.....	<b>23.00</b>
		Packed 300 in a barrel.	





No. 2336

**Insulators—Glass—(Continued).**

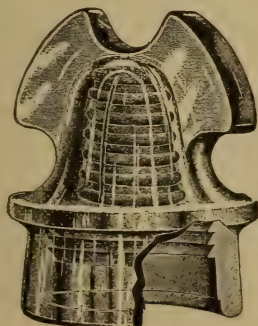
Code Word.	List No.	List Price.
<i>Emissary</i>	2336 Deep Groove Duplex, per 1,000.....	\$50.00



No. 9200—Open.

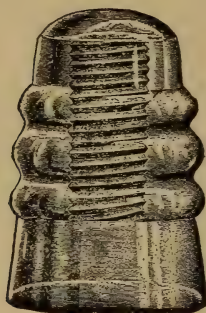
<i>Emulating</i>	9200	Glass Oil Insulator, complete, iron pin, per 100.	80.00
<i>Emulation</i>	9308	" " " wooden pin, "	50.00

The price for No. 9200 includes 10 quarts of oil and 5 pounds of hemp or oakum, and for No. 9308 includes 12 quarts of oil.



No. 9315.

<i>Accomplice</i>	9315	Cable Glass Insulator, per 1,000.....	140.00
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No. 6793.

**Insulators—Glass—(Continued).**

Code Word.	List No.	List Price.
<i>Emulate</i>	6793	Double Groove Glass Insulator, per 1,000. .... \$32.00

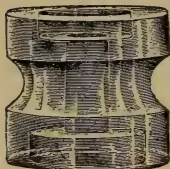


No. 2337.

**No. 1, Glass Insulating or Break Knob.**

1½ inches long, 1½ inches wide, ⅜ inch hole.

<i>Empty</i>	2337	Per 1,000. .... 20.00
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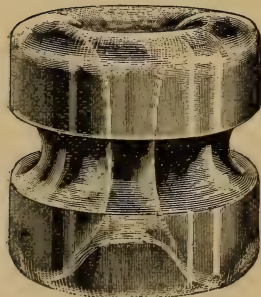


No. 2338.

**No. 2, Glass Insulating or Break Knob.**

1½ inches long, 2 inches wide, ⅜ inch hole.

<i>Emptying</i>	2338	Per 1,000. .... 30.00
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No. 2339-

**No. 3, Glass Insulating or Break Knob.**

For insulating span wires, guy wires, arc lamps, etc.

2½ inches long, 2 inches wide, ⅜ inch hole.

<i>Emurple</i>	2339	Per 1,000. .... 40.00
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No. 24465.

**Glass Insulators.—(Continued.)**

**Break Knob.**

Takes a One Inch Cable.

Code Word.	List No.	List Price.
<i>Soleplate</i>	<b>24465</b>	Per 1,000 ..... \$80.00

3½ in. long; 2¼ in. wide.

**Liquid Insulator.**

<i>Solere</i>	<b>24446</b>	Per 1,000 ..... 500.00
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Made all in one piece.

Weight, per piece, 30½ ozs. Weight, per 100, packed, 2210 lbs.  
Packed 100 in a barrel.



No. 24446.

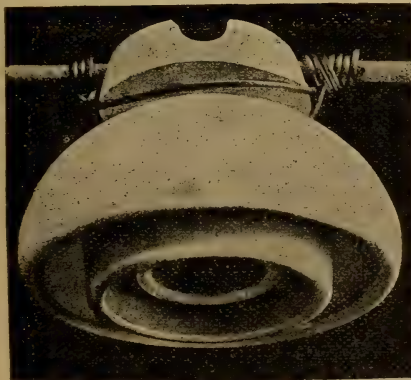
**Locke Triple Petticoat Insulators.**

For High Voltages.

**China Insulator.**

<i>Solert</i>	<b>24467</b>	Each ..... .55
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Dimensions:—Diameter, 5½ inches; Height, 4 inches; 10 inches of surface on under side of Insulator.

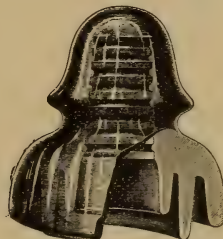


No. 24467.

**Glass Insulator.**

<i>Soleship</i>	<b>24468</b>	Each ..... .15
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Dimensions:—Diameter, 4½ inches; height, 3½ inches; 8½ inches of surface between wire and pin.



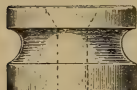
No. 24468.



No. 3458.



No. 3460.



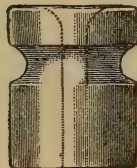
No. 1928.



No. 1929.



No. 1930.



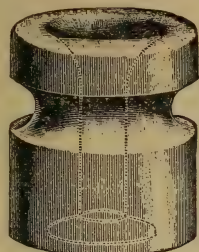
No. 3462.

## Insulators—Porcelain.

The dimensions are as nearly accurate as possible, but owing to the fact that porcelain shrinks when baked, and the shrinkage is not at all times the same, Insulators may be a little larger or smaller than figures given.

Code Word.	List No.	List Price.
<i>Blissful</i>	3458 Per 1,000	\$3.60
	R. T. & Sons No. 7. $\frac{1}{4}$ in. wide and $\frac{1}{8}$ in. high. Groove, $\frac{1}{16}$ in. deep, $\frac{1}{8}$ in. wide.	
<i>Blissless</i>	3460 Per 1,000	3.60
	R. T. & Sons No. 6. $\frac{1}{8}$ in. wide and $\frac{1}{4}$ in. high. Groove, $\frac{1}{8}$ in. deep, $\frac{1}{2}$ in. wide.	
<i>Bilge</i>	1928 Per 1,000	4.00
	R. T. & Sons No. 8. $1\frac{1}{16}$ in. wide, $1\frac{1}{8}$ in. high. Groove, $\frac{3}{4}$ in. deep, $\frac{3}{2}$ in. wide.	
<i>Bilgedart</i>	1929 Per 1,000	4.00
	R. T. & Sons No. 11. $1\frac{1}{16}$ in. wide, $1\frac{1}{8}$ in. high. Groove, $\frac{1}{4}$ in. deep, $\frac{1}{2}$ in. wide.	
<i>Bilged</i>	1930 Per 1,000	5.00
	R. T. & Sons No. 9. $\frac{1}{2}$ in. wide, $1\frac{1}{8}$ in. high. Groove, $\frac{1}{16}$ in. deep, $\frac{1}{8}$ in. wide.	
<i>Blunness</i>	3462 Per 1,000	5.25
	R. T. & Sons No. 5. $1\frac{1}{16}$ in. wide, $1\frac{1}{8}$ in. high. Groove, $\frac{1}{16}$ in. deep, $\frac{1}{8}$ in. wide.	

About 5,000 No. 5 fill a barrel. 500 are packed in boxes. When packed in boxes 50 cents extra per 1,000 is charged.



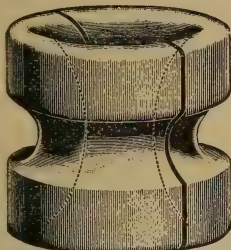
No. 3464.

### Insulators—Porcelain—(Continued.)

Code Word.	List No.	List Price.
<i>Blue</i>	<b>3464</b>	Per 1,000, in barrel lots..... <b>\$8.00</b>

R. T. & Sons No. 4.  $1\frac{1}{2}$  in. wide,  $1\frac{1}{8}$  in. high.  
Groove,  $\frac{1}{4}$  in. deep,  $\frac{3}{8}$  in. wide.

About 2,000 to 2,300 make a barreelfull. 500 fill a box. 50 cents extra per 1,000 charged when packed in boxes.



No. 2575.

<i>Deacon</i>	<b>2575</b>	Split, per 1,000.....	<b>36.00</b>
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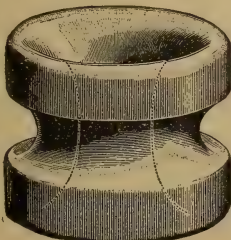
Special Split Insulator,  $1\frac{1}{4}$  in. wide,  $1\frac{3}{8}$  in. high.  
Groove,  $\frac{1}{4}$  in. deep,  $\frac{1}{2}$  in. wide.



No. 1923.

<i>Daytime</i>	<b>1923</b>	Per 1,000 .....	<b>15.00</b>
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R. T. & Sons No. 10.  $1\frac{1}{2}$  in. wide,  $1\frac{1}{4}$  in. high.  
Groove,  $\frac{3}{16}$  in. deep,  $\frac{3}{8}$  in. wide.

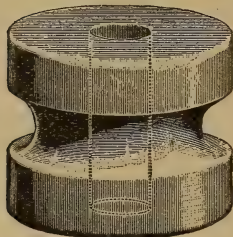


No. 3466.

<i>Blander</i>	<b>3466</b>	Per 1,000 .....	<b>24.00</b>
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R. T. & Sons No. 36.  $1\frac{1}{2}$  in. wide,  $1\frac{1}{2}$  in. high.  
Groove,  $\frac{1}{4}$  in. deep,  $\frac{3}{8}$  in. wide.



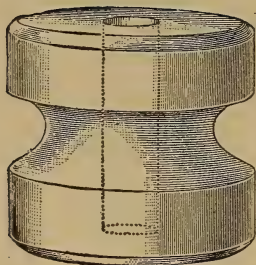


No. 3648.

### Insulators—Porcelain—(Continued.)

Code Word.	List No	List Price.
<i>Bubberting</i>	3468	\$20.00

R. T. & Sons No. 15.  $1\frac{1}{2}$  in. wide,  $1\frac{1}{8}$  in. high.  
Groove,  $\frac{5}{16}$  in. deep,  $\frac{3}{8}$  in. wide

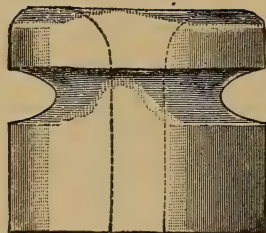


No. 1924.

*Duzzle*

1924	Per 1,000	20.00
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R. T. & Sons No. 24.  $1\frac{1}{2}$  in. wide,  $1\frac{1}{2}$  in. high.  
Groove,  $\frac{1}{4}$  in. deep,  $\frac{1}{2}$  in. wide.

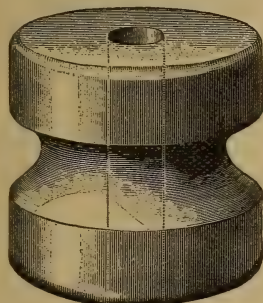


No. 1925.

*Billions*

1925	Per 1,000	20.00
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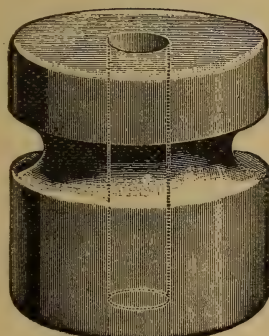
R. T. & Sons No. 3. 2 in. wide,  $1\frac{1}{4}$  in. high.  
Groove  $\frac{3}{8}$  in. deep,  $\frac{3}{8}$  in. wide.



No. 3470.

# Insulators—Porcelain—(Continued.)

Code Word.	List No.	List Price.
<i>Bluffness</i>	<b>3470</b> Per 1,000.....	<b>\$35.00</b>
R. T. & Sons No. 26. $2\frac{7}{8}$ in. wide, $1\frac{1}{2}$ in. high. Groove, $\frac{5}{16}$ in. deep, $\frac{1}{2}$ in. wide.		



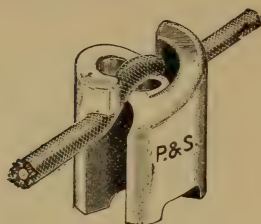
No. 1926.

<i>Bilked</i>	<b>1926</b> Per 1,000.....	<b>27.00</b>
R. T. & Sons No. 2. 2 in. wide, $2\frac{1}{4}$ in. high. Groove, $\frac{3}{8}$ in. deep, $\frac{1}{4}$ in. wide.		



No. 1927.

<i>Bilk</i>	<b>1927</b> Per 1,000.....	<b>53.00</b>
R. T. & Sons No. 1. 2 in. wide, 3 in. high. Groove, $\frac{1}{4}$ in. deep, $\frac{3}{8}$ in. wide.		



No. 1.

## Insulators--Porcelain--(Continued).

### Wiring Insulator.

Code Word.	List No.	List Price.
<i>Enabling</i>	1 Glazed, for No. 6 and No. 8 wire, per 100.....	\$2.80
<i>Enact</i>	1½ Unglazed, " 6 " 8 " " .....	1.80
<i>Enacted</i>	2 Glazed, " 10 to No. 16 " " .....	2.20
<i>Enacting</i>	2½ Unglazed, " 10 " 16 " " .....	1.40

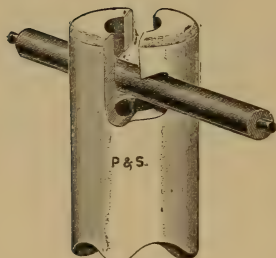


No. 8907.

### Wiring Insulator for Large Wires.

The Insulator will hold insulated wires or cables from  
 $\frac{1}{4}$  to  $\frac{1}{2}$  inch outside diameter.

<i>Emulsiue</i>	8907 Glazed, per 100.....	7.50
<i>Enable</i>	8908 Unglazed, " .....	4.50

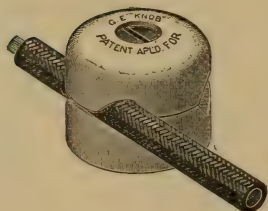


No. 8909.

### "Economic" Insulators.

This is a modification of Nos. 1 and 2 Wiring Insulators. By an improved construction it is, without sacrificing strength, made much smaller, and is therefore sold at a much lower price.

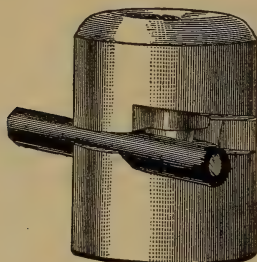
<i>Emulgent</i>	8909 For No. 1 wire and smaller, glazed, per 100....	1.80
<i>Emulsion</i>	8910 " 6 " " glazed. " ....	1.20



No. 6580.

<i>Emulator</i>	6580 Insulating Knob for wire, $\frac{1}{4}$ in. diam., per 100.	3.00
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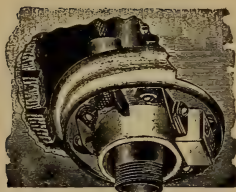


No. 8742.

### The Security Insulator.

Code Word.	List No.	List Price.
<i>Luminous</i>	8742	Security Insulator, $1\frac{1}{4} \times 1\frac{1}{4}$ inch, No. 2 to No. 12
		wire, per 1,000 ..... \$30.00

### Combination Fixture Cut-out and Outlet Insulator.



No. 64.

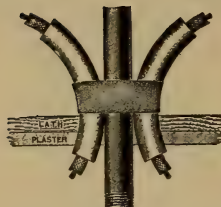
As will be seen by the cut, it is fastened to the lathing, and when the plaster is put on, the Cut-out projects slightly through it. The wires pass through holes in the china plate, and it is impossible for them to touch the gas pipe or the lath or plaster. It is fitted with brass work for connecting the wires or fuses, and is furnished either with fuse plugs, which cover the fuses, or may be fused in the ordinary way.

<i>Electioneer</i>	64	Each .....	.15
<i>Exacted</i>	26	Fuse Plugs, each .....	.05

We also furnish the China Plate for No. 64 with three holes for wires, to be used without brass work.

<i>Electer</i>	64+	Each .....	.11
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### Outlet Insulator.

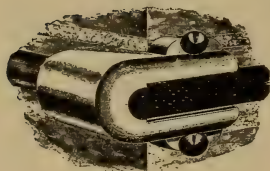


No. 50.

Small curved china tubes for outlets, which effectually insulate wires from the gas pipe and lath and plaster. They are fastened to the pipe with tape in the usual way, as shown in the cut.

<i>Election</i>	50	Per 100 .....	2.00
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### Corner Insulator.

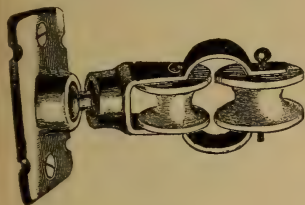


No. 61.

For the protection and insulation of heavy wires and cables when passing around corners or over cornices. It has a hole large enough for an insulated wire  $\frac{1}{4}$  inch outside diameter.

<i>Empotsoning</i>	61	Glazed, each .....	.25
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No. 9300.

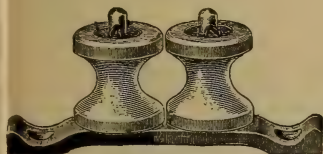
Code Word.  
*Elinor*

List No.

List Price.

9300 Tree Insulator, ball and socket joint, each ... \$0.75

### Tree Insulators.



No. 9301.

*Elite*

9301 Simplex Tree Insulator, each ..... .50



No. 9.

The cut shows our No. 9 Circuit Breaker used as a Tree Insulator.

*Emptiness*

9 P. & S. Tree Insulator, each..... .06



No. 2853.

### Gem Wire Holders, with Bolt and Nut.

#### Wood Insulation.

<i>Effort</i>	2853	$\frac{1}{8}$ inch opening, per 100.....	10.00
<i>Effrontery</i>	2854	$\frac{1}{4}$ " " " .....	12.00



No. 2855.

#### Porcelain Insulation.

<i>Effulgent</i>	2855	$\frac{1}{8}$ inch opening, per 100.....	12.00
<i>Effuse</i>	2856	$\frac{1}{4}$ " " " .....	12.00
<i>Effusion</i>	2857	$\frac{3}{8}$ " " " .....	17.50

## Gem Wire Holders, with Bolt and Nut— (Continued).

### Opalescent Glass Insulation.

Code Word.	List No.		List Price.
<i>Effusive</i>	2858	$\frac{1}{2}$ inch opening, per 100.	\$22.50
<i>Egbert</i>	2859	" " "	22.50
<i>Egg</i>	2860	" " "	27.50
<i>Egotism</i>	2861	" " "	27.50
<i>Egotist</i>	2862	1 " " "	27.50
<i>Egress</i>	2863	$1\frac{1}{2}$ " " "	60.00
<i>Egyptian</i>	2864	$1\frac{1}{2}$ " " "	70.00
<i>Either</i>	02865	$1\frac{1}{2}$ " " "	80.00
<i>Eject</i>	02866	2 " " "	90.00



No. 481.

## Gem Wire Holders, with Wood Screw.

### Porcelain Insulation.

<i>Ejected</i>	481	$\frac{3}{8}$ inch opening, per 100.	10.00
<i>Ejecting</i>	482	$\frac{1}{2}$ " " "	10.00
<i>Ejection</i>	483	" " "	15.00

These Wire Holders are suitable for indoor or outdoor use.



No. 487.

### Opalescent Glass Insulation.

<i>Ejectment</i>	487	$\frac{1}{2}$ inch opening, per 100	20.00
<i>Elaborate</i>	488	" " "	20.00
<i>Elyase</i>	489	" " "	25.00
<i>Elastic</i>	490	" " "	25.00
<i>Elasticity</i>	491	1 " " "	25.00
<i>Elite</i>	493	$1\frac{1}{4}$ " " "	50.00
<i>Elated</i>	494	$1\frac{1}{2}$ " " "	60.00
<i>Elation</i>	484	$1\frac{1}{2}$ " " "	75.00
<i>Elbow</i>	485	2 " " "	85.00



No. 478.

### Wood Insulation.

The Fletcher Gem Wire Holders, with wood insulation, are suitable for every description of inside work, but are not recommended for outdoor use.

<i>Elderly</i>	478	$\frac{3}{8}$ inch opening, per 100.	8.33
<i>Eldest</i>	479	$\frac{1}{2}$ " " "	10.00

## “Tree” Wire Holder.

### Opalescent Glass Insulation.

By passing a wire through the hole in boss of the “Tree” Wire Holder, it can be adjusted to any desired position.

<i>Elect</i>	492	1 inch opening, per 100.	25.00
		Flanged at ends.	



No. 492.



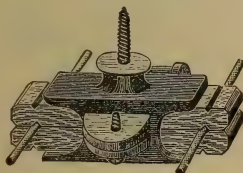
No. 2915.

## "Jumbo" Wire Holders.

### Opalescent Glass Insulation.

The Fletcher "Jumbo" Wire Holder is sufficiently strong to support a heavy cable, and adds materially to the neat appearance of wiring work.

Code Word.	List No.	List Price.
<i>Electing</i>	2915 1 inch opening, per 100.....	\$25.00



No. 496.

## Gem Wire Holders.

<i>Cider</i>	496 Gem Wire Holder, per 100 .....	10.00
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No. 497.

<i>Churn</i>	497 Gem Wire Holder, per 100.....	5.00
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No. 498.

<i>Churchish</i>	498 Gem Wire Holder, per 100 .....	6.50
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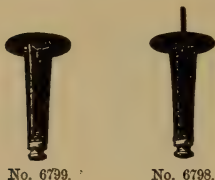
## Insulated Wood Risers.

The Fletcher Insulated Wood Risers are used in fitting up electric light stations and power houses with wire or copper rods.



No. 2396.

<i>Chaffness</i>	2396 $\frac{1}{4}$ inch, Porcelain Insulation, each.....	.25
<i>Chaffy</i>	2397 $\frac{3}{8}$ " " " " .....	.25
<i>Chump</i>	2398 $\frac{1}{2}$ " Glass " " .....	.30
<i>Chunk</i>	2399 $\frac{5}{8}$ " " " " .....	.30
<i>Church</i>	2400 $\frac{3}{4}$ " " " " .....	.40
<i>Churchdom</i>	2401 $\frac{7}{8}$ " " " " .....	.40
<i>Churching</i>	2402 1 " " " " .....	.50
<i>Churchland</i>	2403 $1\frac{1}{4}$ " " " " .....	.50
<i>Churchman</i>	2404 $1\frac{1}{2}$ " " " " .....	.50



No. 6799.

No. 6798.

### The Fletcher Wiring Pendants.

A very neat and strong device for wiring are and incandescent lights, indoors or out. Length, 5 inches; diameter of base plate, 3 inches.

Code Word.	List No.	List Price.
<i>Chud</i>	6798	Fletcher's Wiring Pendant, with screw, each.... \$0.15
<i>Chuff</i>	6799	" " " " screw holes, " .... .15

### Fletcher's Insulating Iron Pin and Bracket.

These Iron Pins or Brackets are used on poles and cross-arms for running electric light lines or electric street railway feed wires, and do not require tie wires, which might injure the insulation of the line or feeder wire.



No. 2931.

#### Fletcher's Insulating Iron Pin.

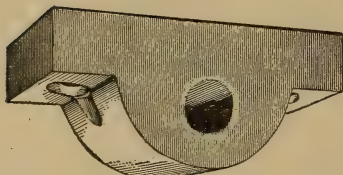
<i>Employable</i>	2931	$\frac{1}{4}$ inch, Glass Insulation, each .....	.30
<i>Employer</i>	2932	$\frac{3}{8}$ " " " " " .....	.30
<i>Employing</i>	2933	$\frac{1}{2}$ " " " " " .....	.30
<i>Empoison</i>	2934	$\frac{5}{8}$ " " " " " .....	.30
<i>Empoisoned</i>	2935	$\frac{3}{4}$ " " " " " .....	.30



No. 1857.

#### Fletcher's Insulating Iron Bracket.

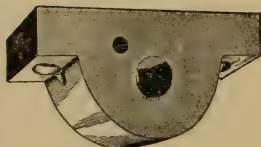
<i>Emphasize</i>	1857	$\frac{1}{4}$ inch, Glass Insulation, each .....	.50
<i>Emphasizing</i>	1858	$\frac{3}{8}$ " " " " " .....	.50
<i>Empire</i>	2923	$\frac{1}{2}$ " " " " " .....	.50
<i>Empiric</i>	2924	$\frac{5}{8}$ " " " " " .....	.50
<i>Empirical</i>	2925	$\frac{3}{4}$ " " " " " .....	.50



No. 2344

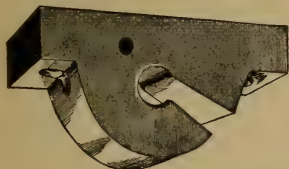
### Porcelain Wire Holders.

<i>Electrify</i>	2344	Per 1,000.....	27.75
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No. 2345

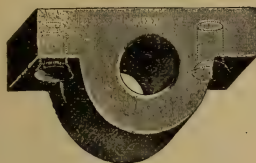
<i>Elias</i>	2345	Per 1,000.....	50.00
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No. 2346-

## Porcelain Wire Holders—(Continued).

Code Word.	List No.	List Price.
<i>Eliminate</i>	2346 Per 1,000.....	\$150.00



No. 2347-

<i>Eliminate</i>	2347 Per 1,000 .....	90.00
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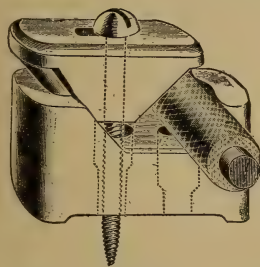
## Cleats, Porcelain.



No. 1157.

## The Duggan Cleat.

<i>Bequeathing</i>	1157	Glazed, will take wire No. 8 to No. 16, per 1,000,	45.00
<i>Bilateral</i>	1158	Unglazed, " " 8 " 16, "	30.00
<i>Bilateral</i>	1159	Glazed, " " 6 " 00, "	47.50
<i>Bilberry</i>	1160	Unglazed, " " 6 " 00, "	32.50
<i>Bilbo</i>	1161	Glazed, " " 16 and " 18, "	45.00
<i>Bile</i>	1162	Unglazed, " " 16 " 18, "	30.00

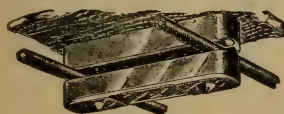


No. 3415.

## "P. &amp; S." Single Cleat.

This Cleat is designed for use where wires are required to be separated more than 2½ inches.

<i>Ellizir</i>	3415	Glazed, for wires with insulation $\frac{3}{8}$ to $\frac{1}{2}$ inch diameter, per 100.....	5.00
<i>Ellk</i>	3416	Unglazed, for wires with insulation $\frac{3}{8}$ to $\frac{1}{2}$ inch diameter, per 100.....	3.50
<i>Ellen</i>	3417	Glazed, for wires with insulation $\frac{1}{2}$ to $\frac{3}{4}$ inch diameter, per 100.....	2.50
<i>Elliptic</i>	6800	Unglazed, for wires with insulation $\frac{1}{2}$ to $\frac{3}{4}$ inch diameter, per 100.....	1.60



No. 3814.

## "P. &amp; S." China Cleats.

<i>Bereave</i>	3814	Glazed, 2 wire, for No. 8 wire or smaller, per 100	3.80
<i>Bereaving</i>	3815	Unglazed, 2 " " 8 " " "	2.50
<i>Novel</i>	3418	Glazed, 3 " " 8 " " "	3.80
<i>Novelist</i>	3419	Unglazed, 3 " " 8 " " "	2.50
<i>Novelly</i>	3420	Glazed, for No. 6 wire, per 100.....	4.50
<i>Noun</i>	3421	Unglazed, " 6 " " " "	3.00

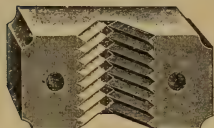




No. 24100.

**I X L Cleat.**

Code Word.	List No.	List Price.
<i>Slifted</i>	24100 Per 1,000 .....	\$20.00



No. 24101.

**Duggan One Wire Cleat.****Glazed.**

<i>Slight</i>	24101	Holds Wires No. 16 to No. 8, per 1,000...	20.00
<i>Slighthen</i>	24102	" " No. 6 to No. 00, " .....	36.00
<i>Slighter</i>	24103	" " No. 000 and larger, " .....	60.00

**Not Glazed.**

<i>Slightingly</i>	24104	Holds Wires No. 16 to No. 8, per 1,000 ..	17.00
<i>Slightly</i>	24105	" " No. 6 to No. 00, " .....	32.00
<i>Slightness</i>	24106	" " No. 000 and larger, " .....	56.00



No. 24107.

**The Diamond Porcelain Cleat.**

<i>Slightly</i>	24107	Per 1,000 .....	23.00
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Takes all Wires from No. 8 to No. 16.



No. 15325.

**"W" Cleat.**

<i>Morrise</i>	15325	Per 1,000 .....	20.00
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No. 15326.

**Nashold Cleat.**

<i>Morrison</i>	15326	Per 1,000 .....	30.00
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No. 24146.

**"P & S" China Cleat, Two and Three Wire.**

<i>Sludge</i>	24146	Two Wire, glazed, per 100 .....	3.50
<i>Sludger</i>	24147	" " unglazed, " .....	2.20
<i>Sludgy</i>	24148	Three " glazed, " .....	3.50
<i>Sine</i>	24149	" " unglazed, " .....	2.20



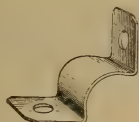
No. 300.



No. 301.



No. 302.



No. 303.

### Brass Wiring Cleats.

While these cleats are adapted specially for street car wiring, they will be found very useful in other lines of work.

Code Word.	List No.	List Price Per 1,000
<i>Versatile</i>	300 Small.....	\$5.00
<i>Vertebra</i>	301 For No. 16 Wire.....	6.00
<i>Vestment</i>	302 For No. 6 Wire.....	7.00
<i>Vicidly</i>	303 For No. 6 Wire.....	5.00

### Wood Cleats.

#### One Wire.

		Outside Diam. of Wire.	Length in ins.		
<i>Stily</i>	24108	No. 4, $\frac{1}{4}$ -inch,	2	square ends..	4.00
<i>Stim</i>	24109	No. 15, $\frac{1}{16}$ -inch,	2	" .....	4.10
<i>Stime</i>	24110	Bunched Cleat $\frac{3}{8}$ -inch,	2 $\frac{1}{2}$	beveled ends..	9.35

#### Two Wire.

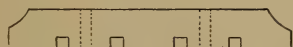
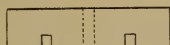
<i>Slimness</i>	24114	No. 1, $\frac{1}{4}$ -inch,	2	square ends ...	4.25
<i>Slimoy</i>	24113	No. 3, $\frac{1}{8}$ -inch,	4	beveled ends.	6.10
<i>Sling</i>	24114	No. 23, $\frac{1}{4}$ -inch,	2	" .....	9.40
<i>Sliness</i>	24115	No. 5, $\frac{1}{4}$ -inch,	4 $\frac{1}{2}$	" .....	7.75
<i>Sling</i>	24116	No. 17, $\frac{1}{4}$ -inch,	2	square ends...	5.00
<i>Slinger</i>	24117	No. 19, $\frac{3}{8}$ -inch,	4 $\frac{1}{2}$	beveled ends	15.00
<i>Slink</i>	24118	No. 6, $\frac{1}{4}$ -inch,	4 $\frac{1}{2}$	" .....	20.00

#### Three Wire.

<i>Stipknot</i>	24120	No. 24, $\frac{1}{16}$ -inch,	4	beveled ends -	7.00
<i>Stipon</i>	24121	No. 18, $\frac{1}{4}$ -inch,	5	" .....	8.80

#### Four Wire.

<i>Stipper</i>	2 122	No. 2, $\frac{3}{16}$ -inch,	3 $\frac{1}{2}$	beveled ends ..	9.25
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No. 013.

Code Word.	List No.	List Price.
<i>Empassion</i>	013 Hole for wire $\frac{1}{8}$ inch (use $\frac{3}{8}$ inch bit to bore joists), per 100.....	\$2.00
<i>Emperor</i>	13 Hole for wire $\frac{3}{8}$ inch (use $\frac{1}{2}$ inch bit to bore joists), per 100.....	2.25
<i>Emphasis</i>	14 Hole for wire $\frac{1}{2}$ inch (use 1 inch bit to bore joists), per 100.....	3.25

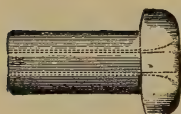
### China Cross=over Tube.

This tube has a head on each end and is designed to be used when wires cross over other wires. The heads tend to hold tube in position.



No. 130.

<i>Empaling</i>	130 $\frac{3}{8}$ inch hole, 3 inches between heads, glazed, per 100.....	4.50
<i>Empanel</i>	130½ $\frac{3}{8}$ inch hole, 3 inches between heads, unglazed, per 100.....	2.50



No. 8861.

### "Midget" Wiring Tube.

<i>Edwin</i>	8861 1½ inches long, $\frac{3}{8}$ inch hole, $\frac{1}{2}$ inch outside diameter, per 100.....	1.60
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No. 20.

### Porcelain Window Tube.

<i>Empaled</i>	20 6 inches long, $\frac{3}{8}$ inch hole, unglazed, each.....	.07
<i>Empalement</i>	20½ 6 " " $\frac{3}{8}$ " glazed, ".....	.09

Use  $\frac{3}{8}$  inch bit to bore holes for them.

### Porcelain Window Tube, with Curved End.

This form of Window Tube has a curved end which effectually prevents any water entering through tube, and insures a compliance with the insurance rule requiring a "water loop" in wire. Use  $\frac{3}{8}$  inch bit.



No. 37.

<i>Emotive</i>	37 Glazed Window Tubes, curved ends, each....	.07
<i>Empale</i>	37½ Unglazed " " " ".....	.05

### Long Curved End Tubes.

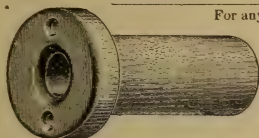


This Tube has a hole  $\frac{5}{8}$  inch in diameter, and is  $1\frac{1}{2}$  inch outside diameter.

#### Price List of Each Size, in Cents.

LENGTH UNDER HEAD IN INCHES.	6	8	10	12	14	16	18
Unglazed .....	11	17	23	33	38	46	54

For any of the above furnished Glazed, add 25 per cent.

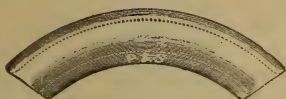


No. 9327.

Code Word.	List No.	List Price.
<i>Enactice</i>	9327 Floor Insulator, $\frac{5}{8}$ in. hole, $3\frac{1}{2}$ inch tube .....	.12

### Awning Insulator.

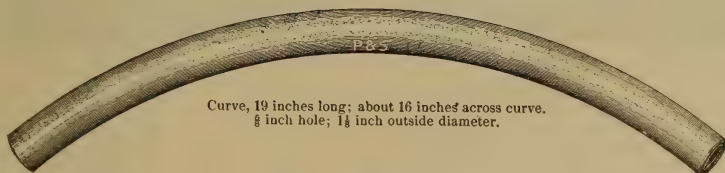
This Insulator is used where a wire passes over an awning or cornice, or around the corner of a building, to protect the insulation of the wire from abrasion.



No. 21

<i>Emotion</i>	8989 Awning Insulator, glazed, each .....	.07
<i>Emotional</i>	8998 " " unglazed, each .....	.05

### Long Curved Tubes, for Awnings, Cornices, Etc.



Curve, 19 inches long; about 16 inches across curve.  
 $\frac{5}{8}$  inch hole;  $1\frac{1}{2}$  inch outside diameter.

<i>Sloocen</i>	24125 Unglazed, each .....	.40
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### Large China Tubes, with Long Heads.



We carry the following sizes with heads 3 inches long, which can be used advantageously where water or sweepings are liable to come in contact with wires. In ordering always give both outside and inside diameter.

#### Price List of Each Size, in Cents.

LENGTH UNDER HEAD IN INCHES.		6	8	10	12	14	17
$\frac{1}{2}$ in. hole,	$\frac{3}{4}$ in. outside diameter .....	7	12 $\frac{1}{2}$	15 $\frac{1}{2}$	18 $\frac{1}{2}$	21 $\frac{1}{2}$	..
" "	" "	8	13 $\frac{1}{2}$	16 $\frac{1}{2}$	19 $\frac{1}{2}$	22 $\frac{1}{2}$	..
" "	1 $\frac{1}{8}$ in. " .....	18	27 $\frac{1}{2}$	32 $\frac{1}{2}$	37 $\frac{1}{2}$	42 $\frac{1}{2}$	50
" "	1 $\frac{1}{4}$ in. " .....	18	27 $\frac{1}{2}$	32 $\frac{1}{2}$	37 $\frac{1}{2}$	42 $\frac{1}{2}$	50
" "	1 $\frac{3}{8}$ in. " .....	22 $\frac{1}{2}$	33	39	45	51	60
1 in. " "	1 $\frac{1}{2}$ in. " .....	22 $\frac{1}{2}$	33	39	45	51	60

For any of the above Glazed, add 25 per cent.

## Large China Tubes.



In ordering always give outside and inside diameter.

Price List of Each Size, in Cents.

LENGTH IN INCHES.		4	5	6	7	8	9	10	12	14	15	16	18	20	22	24
$\frac{1}{8}$ in. hole,	$\frac{3}{8}$ in. outside diam.	2½	3	4	5	6	7	8	14	17	....	20	23	....	....	....
" "	" "	3½	4	5	6	7	8	9	15	18	....	21	24	....	....	....
" "	1 " "	8	....	12	....	16	....	20	30	....	....	....	....	....	....	....
" "	1½ " "	....	....	12	....	16	....	20	30	35	....	40	45	50	55	60
" "	1½ " "	....	....	15	....	20	....	25	36	....	....	40	45	50	55	60
" "	1½ " "	....	....	....	....	....	....	....	....	42	45	48	54	60	66	72
" "	1½ " "	9	....	15	....	20	....	25	36	42	45	48	54	60	66	72
" "	1½ " "	14	....	18	....	24	....	30	42	49	....	56	63	70	77	84
" "	2 " "	14	....	18	....	24	....	30	42	49	....	56	63	70	77	84

For any of the above Glazed, add 25 per cent.

## Hard Rubber Tubing, with Heads.



ROUGH.



POLISHED.

Length.	Outside Diam.	Inside Diam.	Weight per C.	LIST PRICE PER LB.	
				Rough.	Polished
1½ inch.	$\frac{7}{8}$ inch.	$\frac{3}{4}$ inch.	1½ lbs.	\$2.25	\$2.50
1½ "	$\frac{7}{8}$ "	$\frac{5}{8}$ "	1½ "	2.25	2.50
2½ "	$\frac{7}{8}$ "	$\frac{1}{2}$ "	1½ "	2.25	2.50
2½ "	$\frac{1}{2}$ "	$\frac{1}{4}$ "	2 "	2.25	2.50
3 "	$\frac{7}{8}$ "	$\frac{1}{2}$ "	1½ "	2.25	2.50
4 "	$\frac{7}{8}$ "	$\frac{1}{2}$ "	2½ "	2.25	2.50
6 "	$\frac{7}{8}$ "	$\frac{1}{2}$ "	3½ "	2.25	2.50
3 "	$\frac{9}{16}$ "	$\frac{5}{8}$ "	2½ "	2.25	2.50
4 "	$\frac{9}{16}$ "	$\frac{7}{8}$ "	3½ "	2.25	2.50
6 "	$\frac{9}{16}$ "	$\frac{5}{8}$ "	5½ "	2.25	2.50
8 "	$\frac{9}{16}$ "	$\frac{5}{8}$ "	6½ "	2.25	2.50
4 "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	4½ "	2.25	2.50
8 "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	7½ "	2.25	2.50
12 "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	10½ "	2.25	2.50
8 "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	10½ "	2.25	2.50
12 "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	15½ "	2.25	2.50
2½ "	$\frac{9}{16}$ "	$\frac{3}{8}$ "	22½ "	2.25	2.50
3 "	$\frac{9}{16}$ "	$\frac{3}{8}$ "	26½ "	2.25	2.50
4 "	$\frac{3}{4}$ "	$\frac{1}{2}$ "	5½ "	2.25	2.50





Nos. 3816 to 3825.

**Floor Insulators.****Glass Floor Insulators.**

Code Word.	List No.				List Price. Per 1,000.
<i>Bernard</i>	3816	3	in. floor ins.,	$\frac{1}{2}$ in. bore, with thread	\$70.00
<i>Bertha</i>	3817	3	"	1 " "	70.00
<i>Bertram</i>	3818	3	"	$1\frac{1}{4}$ " "	80.00
<i>Beseech</i>	3819	$3\frac{1}{2}$	"	1 " "	75.00
<i>Bessen</i>	3820	4	"	$\frac{3}{4}$ " "	80.00
<i>Beset</i>	3821	4	"	1 " "	80.00



No. 3836.

<i>Besiege</i>	3822	$1\frac{1}{2}$ in. floor ins.,	1 in. bore, with thread	90.00
<i>Besiegement</i>	3823	5	" 1 " "	100.00
<i>Besieging</i>	3824	6	" 1 " "	120.00
<i>Besmoke</i>	3825	6	" $1\frac{1}{4}$ " "	140.00
<i>Besot</i>	3836	$3\frac{1}{2}$	" $\frac{3}{4}$ " no thread	75.00
<i>Bespeak</i>	3837	6	" 1 " split thread	200.00



No. 3472.

**Porcelain Bushing.****THREE INCHES UNDER THE HEAD.**

<i>Blinkard</i>	3472	For $\frac{5}{8}$ inch wire.....	105.00
<i>Blinkers</i>	3473	" $\frac{3}{4}$ " " .....	125.00
<i>Bliss</i>	3474	" 1 " " .....	150.00



No. 8899.

**China Floor Tubes.**

				Each.
<i>Enactment</i>	8899	4 inches long, $\frac{3}{4}$ inch hole.....	\$	.09
<i>Enactor</i>	8900	4 " 1 " .....		.09
<i>Enamel</i>	8901	6 " $\frac{3}{4}$ " .....		.12
<i>Enameled</i>	8902	6 " 1 " .....		.12
<i>Enameling</i>	8903	4 " $1\frac{1}{4}$ " .....		.14
<i>Enamor</i>	8904	4 " $1\frac{1}{2}$ " .....		.14
<i>Enamored</i>	8905	6 " $1\frac{1}{4}$ " .....		.18
<i>Enamoring</i>	8906	6 " $1\frac{1}{2}$ " .....		.18



"The Diamond" Vitrified Clay Tubes.

Length under Head.	Diameter Hole.	Outside Diam.	Telegraphic Code.	Price per 1,000.	Length under Head.	Diameter Hole.	Outside Diam.	Telegraphic Code.	Price per 1,000.
1	1 1/8	3	A A	\$ 7.50	3	1	1 1/2	Par	\$28.00
2	"	"	A B	8.00	4	"	"	Pas	35.00
2 1/2	"	"	A C	9.00	6	"	"	Ped	50.00
3	"	"	A D	10.00	8	"	"	Pit	70.00
4	"	"	A E	12.00	10	"	"	Pell	90.00
6	"	"	A F	25.00	12	"	"	Pem	130.00
8	"	"	A G	32.00	16	"	"	Paw	180.00
10	"	"	A H	40.00	20	"	"	Pep	225.00
12	"	"	A K	60.00	24	"	"	Put	275.00
1	3/8	3/4	Dal	7.50	SPECIAL SIZES Each..				
1 1/4	"	"	Dat	8.00					
2	"	"	Dres	10.00					
3	"	"	Dup	12.00					
4	"	"	Det	14.00					
6	"	"	Dea	30.00					
8	"	"	Dov	40.00					
10	"	"	Dix	55.00					
12	"	"	Dox	80.00					
2	1/2	3/4	Ed	12.00	4	1 1/2	1 1/2	Sal	.08
3	"	"	Ell	15.00	6	"	"	Sco	.10
4	"	"	Ess	18.00	8	"	"	Snee	.12
6	"	"	Eli	35.00	10	"	"	She	.16
8	"	"	Em	50.00	12	"	"	Sen	.24
10	"	"	Elg	65.00	16	"	"	Sel	.32
12	"	"	Emp	90.00	20	"	"	Spa	.40
14	"	"	East	105.00	24	"	"	Son	.48
2	3/8	1	Ga	15.00	4	1 1/2	2 1/2	Ren	.10
3	"	"	Glen	18.00	6	"	"	Reg	.16
4	"	"	Gret	22.00	8	"	"	Rao	.20
6	"	"	Gra	40.00	10	"	"	Ros	.24
8	"	"	Gir	54.00	12	"	"	Rock	.36
10	"	"	Gen	70.00	16	"	"	Rol	.48
12	"	"	Gala	100.00	20	"	"	Rox	.60
16	"	"	Gr	135.00	24	"	"	Red	.70
3	1/2	1 1/8	Hon	23.00	4	1 1/2	2 1/2	Fed	.12
4	"	"	Hen	25.00	6	"	"	For	.20
6	"	"	Hel	45.00	8	"	"	Fra	.24
8	"	"	Hur	60.00	10	"	"	Ful	.28
10	"	"	H H	80.00	12	"	"	Flint	.40
12	"	"	Hi	105.00	16	"	"	Farun	.60
16	"	"	Hol	155.00	20	"	"	Few	.70
					24	"	"	Fall	.90

## B. &amp; T. White Porcelain Tubes.

Thin Walls. Straight. Absolutely Non-Absorbent.

List Price per 100.

Length in inches..	3	4	5	6	8	10	12	14	16	18	20	24
1/2 in. inside diam..	.78	.94	1.53	1.95	3.00	4.00	6.00	7.00	8.00	9.00	10.00	....
" " " "	.94	1.10	1.80	2.34	3.50	4.50	6.50	8.00	9.00	10.00	11.00	14.00
" " " "	1.28	1.40	2.11	2.72	4.00	5.00	7.00	9.00	10.00	12.00	13.00	15.00
" " " "	1.40	1.72	2.55	3.11	4.50	6.00	8.00	10.00	12.00	14.00	15.00	17.00
" " " "	1.81	1.95	2.80	3.50	5.00	7.00	9.00	10.00	13.00	15.00	16.00	20.00
1 " " "	2.18	2.72	3.45	3.90	7.00	8.00	11.00	12.00	15.00	17.00	19.00	22.00
1 1/2 " " "	....	6.50	....	8.00	10.00	13.00	19.00	22.00	26.00	....	33.00	39.00
1 3/4 " " "	....	8.00	....	13.00	16.00	19.00	28.00	34.00	38.00	....	47.00	56.00

# Mouldings.

F. O. B. Chicago.

Price per 1,000 Feet, Moulding Only.

Capping one-half price of Moulding.



No. Wires.	Size of Grooves.	Unfinished Mahogany.	Finished Mahogany.	Unfinished Red Birch.
2	$\frac{1}{4}$ in.	\$80.00	\$100.00	\$20.00
3	$\frac{1}{4}$ in.	120.00	150.00	30.00

Price per 1,000 Feet, Moulding Only.

Capping one-half price of Moulding.

No. Wires.	Size of Grooves.	Unfinished Soft Wood.	Painted Soft Wood.	Unfinished Oak.	Finished Oak.	Finished Georgia Pine
1	$\frac{1}{4}$ in.	\$6.00	\$8.00	\$12.00	\$17.00	\$12.00
2	$\frac{1}{4}$ in.	7.50	11.00	18.00	24.00	20.00
3	$\frac{1}{4}$ in.	12.00	16.00	28.00	36.00	28.00
2	$\frac{1}{8}$ in.	9.00	13.00	20.00	28.00	22.00
3	$\frac{1}{8}$ in.	14.00	19.00	30.00	40.00	32.00
1	$\frac{3}{8}$ in.	7.00	10.00	14.00	22.00	18.00
2	$\frac{3}{8}$ in.	13.00	18.00	26.00	36.00	28.00
3	$\frac{3}{8}$ in.	20.00	26.00	38.00	50.00	40.00
2	$\frac{1}{2}$ in.	14.00	20.00	28.00	40.00	30.00
3	$\frac{1}{2}$ in.	22.00	30.00	40.00	55.00	45.00
2	$\frac{5}{8}$ in.	18.00	24.00	35.00	47.00	37.00
3	$\frac{5}{8}$ in.	26.00	35.00	47.00	65.00	55.00
1	$\frac{3}{4}$ in.	10.00	14.00	20.00	30.00	22.00
2	$\frac{3}{4}$ in.	22.00	28.00	40.00	55.00	45.00
3	$\frac{3}{4}$ in.	30.00	40.00	55.00	75.00	65.00
2	1 in.	30.00	40.00	55.00	75.00	60.00
3	1 in.	45.00	60.00	82.00	110.00	90.00

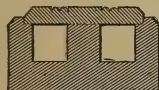
Special Mouldings made to order on short notice.

# Mouldings.

F. O. B. New York.



No. 386.



No. 387.

		Description.	Outside Diam. of Wire, Inches.	Width of Bottom, Inches.	List Price per 1,000 Ft.
<i>Contemplator</i>	386	A-1, complete, 2 wire	$\frac{7}{16}$	$1\frac{1}{8}$	11.00
<i>Contempt</i>	387	A-2, complete, 2 "	$\frac{7}{16}$	$1\frac{1}{8}$	21.00
<i>Contemptible</i>	388	A-2, bottom, 2 "	$\frac{7}{16}$	$1\frac{1}{8}$	13.50
<i>Contemptibly</i>	389	A-2, capping, 2 "	$\frac{7}{16}$	$1\frac{1}{8}$	7.50
<i>Contend</i>	401	B-1, complete, 2 "	$\frac{7}{16}$	$1\frac{1}{8}$	25.00
<i>Content</i>	402	B-1, bottom, 2 "	$\frac{7}{16}$	$1\frac{1}{8}$	16.00
<i>Contention</i>	403	B-1, capping, 2 "	$\frac{7}{16}$	$1\frac{1}{8}$	9.00
<i>Contentious</i>	415	C-1, complete, 2 "	$\frac{1}{2}$	$2\frac{1}{8}$	28.00
<i>Contentless</i>	416	C-1, bottom, 2 "	$\frac{1}{2}$	$2\frac{1}{8}$	19.00
<i>Contentment</i>	417	C-1, capping, 2 "	$\frac{1}{2}$	$2\frac{1}{8}$	9.00
<i>Contents</i>	429	D-1, complete, 2 "	$\frac{1}{2}$	$2\frac{1}{8}$	40.00
<i>Contentminable</i>	430	D-1, bottom, 2 "	$\frac{1}{2}$	$2\frac{1}{8}$	29.00
<i>Contentminous</i>	431	D-1, capping, 2 "	$\frac{1}{2}$	$2\frac{1}{8}$	11.00
<i>Contest</i>	441	E-1, complete, 2 "	$\frac{3}{4}$	$3\frac{1}{8}$	60.00
<i>Contestable</i>	442	E-1, bottom, 2 "	$\frac{3}{4}$	$3\frac{1}{8}$	48.00

## Mouldings—(Continued).

F. O. B. New York.



No. 390.



No. 399.



No. 400.



No. 393.

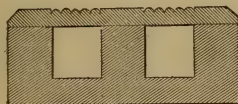


No. 396.

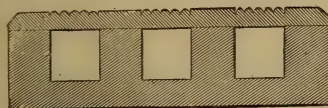
Code Word.	List No.	Description.	Outside Diam of Wire, inches.	Width of Bottom, inches.	List Price, per 1,000 Ft.
<i>Contestant</i>	443	E-1, capping, 2 wire,	$\frac{3}{16}$	$3\frac{1}{8}$	12.00
<i>Continent</i>	390	A-3, complete, 2 "	$\frac{3}{16}$	$1\frac{1}{8}$	18.00
<i>Continental</i>	391	A-3, bottom, 2 "	$\frac{3}{16}$	$1\frac{1}{8}$	10.50
<i>Contingency</i>	392	A-3, capping, 2 "	$\frac{3}{16}$	$1\frac{1}{8}$	7.50
<i>Contingent</i>	404	B-2, complete, 2 "	$\frac{1}{8}$	$1\frac{1}{8}$	21.00
<i>Continuable</i>	405	B-2, bottom, 2 "	$\frac{1}{8}$	$1\frac{1}{8}$	12.00
<i>Continual</i>	406	B-2, capping, 2 "	$\frac{1}{8}$	$1\frac{1}{8}$	9.00
<i>Contested</i>	418	C-2, complete, 2 "	$\frac{3}{16}$	$2\frac{1}{8}$	25.00
<i>Contesting</i>	419	C-2, bottom, 2 "	$\frac{3}{16}$	$2\frac{1}{8}$	16.00
<i>Context</i>	420	C-2, capping, 2 "	$\frac{3}{16}$	$2\frac{1}{8}$	9.00
<i>Contiguity</i>	432	D-2, complete, 2 "	$\frac{1}{8}$	$2\frac{3}{8}$	38.00
<i>Contiguous</i>	433	D-2, bottom, 2 "	$\frac{1}{8}$	$2\frac{3}{8}$	27.00
<i>Contiguously</i>	434	D-2, capping, 2 "	$\frac{1}{8}$	$2\frac{3}{8}$	11.00
<i>Continuance</i>	399	A-6, complete, 2 "	$\frac{3}{16}$	$1\frac{1}{8}$	\$15.00
<i>Continue</i>	413	B-5, " 2 "	$\frac{1}{8}$	$1\frac{1}{8}$	17.50
<i>Continued</i>	427	C-5, " 2 "	$\frac{3}{16}$	$2\frac{1}{8}$	22.50
<i>Continuedly</i>	400	A-7, complete, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	22.00
<i>Continuing</i>	414	B-6, " 3 "	$\frac{1}{8}$	$2\frac{1}{8}$	25.00
<i>Continuity</i>	428	C-6, " 3 "	$\frac{3}{16}$	$2\frac{1}{8}$	30.00
<i>Continuous</i>	393	A-4, complete, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	30.00
<i>Contort</i>	394	A-4, bottom, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	19.00
<i>Contorted</i>	395	A-4, capping, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	11.00
<i>Contortion</i>	407	B-3, complete, 3 "	$\frac{1}{8}$	$2\frac{1}{8}$	35.00
<i>Contour</i>	408	B-3, bottom, 3 "	$\frac{1}{8}$	$2\frac{1}{8}$	21.50
<i>Contra</i>	409	B-3, capping, 3 "	$\frac{1}{8}$	$2\frac{1}{8}$	13.50
<i>Contraband</i>	421	C-3, complete, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	42.00
<i>Contract</i>	422	C-3, bottom, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	27.00
<i>Contracted</i>	423	C-3, capping, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	15.00
<i>Contractile</i>	435	D-3, complete, 3 "	$\frac{1}{8}$	$3\frac{1}{8}$	60.00
<i>Contracting</i>	436	D-3, bottom, 3 "	$\frac{1}{8}$	$3\frac{1}{8}$	38.00
<i>Contraction</i>	437	D-3, capping, 3 "	$\frac{1}{8}$	$3\frac{1}{8}$	22.00
<i>Contractor</i>	444	E-2, complete, 3 "	$\frac{3}{16}$	$4\frac{1}{8}$	80.00
<i>Contradict</i>	445	E-2, bottom, 3 "	$\frac{3}{16}$	$4\frac{1}{8}$	59.00
<i>Contradicted</i>	446	E-2, capping, 3 "	$\frac{3}{16}$	$4\frac{1}{8}$	21.00
<i>Contralto</i>	396	A-5, complete, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	27.00
<i>Contraries</i>	397	A-5, bottom, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	16.00
<i>Contrariety</i>	398	A-5, capping, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	11.00
<i>Contrarily</i>	410	B-4, complete, 3 "	$\frac{1}{8}$	$2\frac{1}{8}$	30.00
<i>Contrary</i>	411	B-4, bottom, 3 "	$\frac{1}{8}$	$2\frac{1}{8}$	16.50
<i>Contrast</i>	412	B-4, capping, 3 "	$\frac{1}{8}$	$2\frac{1}{8}$	13.50
<i>Contrasted</i>	424	C-4, complete, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	38.00
<i>Contravene</i>	425	C-4, bottom, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	23.00
<i>Contravening</i>	426	C-4, capping, 3 "	$\frac{3}{16}$	$2\frac{3}{8}$	15.00
<i>Contravention</i>	438	D-4, complete, 3 "	$\frac{1}{8}$	$3\frac{1}{8}$	58.00
<i>Contretemps</i>	439	D-4, bottom, 3 "	$\frac{1}{8}$	$3\frac{1}{8}$	36.00
<i>Contributable</i>	440	D-4, capping, 3 "	$\frac{1}{8}$	$3\frac{1}{8}$	22.00

Mouldings—(Continued).

F. O. B. New York.



No. 447.



No. 450.



No. 591



No. 593.



No. 595.



No. 598.

Code Word.	List No.	Description.	Outside Diam of Wire, Inches.	Width of Bottom, Inches.	List Price, per 1,000 Ft.
<i>Contribute</i>	447	F-1, complete, 2 "	$\frac{3}{8}$	4	80.00
<i>Contributed</i>	448	F-1, bottom, 2 "	$\frac{3}{8}$	4	55.00
<i>Contributing</i>	449	F-1, capping, 2 "	$\frac{3}{8}$	4	24.00
<i>Contribution</i>	453	G-1, complete, 2 "	1	5	110.00
<i>Contributive</i>	454	G-1, bottom, 2 "	1	5	80.00
<i>Contributor</i>	455	G-1, capping, 2 "	1	5	30.00
<i>Contrite</i>	459	H-1, complete, 2 "	$1\frac{1}{16}$	5 $\frac{1}{2}$	121.00
<i>Contritely</i>	460	H-1, bottom, 2 "	$1\frac{1}{16}$	5 $\frac{1}{2}$	90.00
<i>Contrition</i>	461	H-1, capping, 2 "	$1\frac{1}{16}$	5 $\frac{1}{2}$	31.00
<i>Contrivance</i>	450	F-2, complete, 3 "	$\frac{3}{4}$	5 $\frac{1}{2}$	100.00
<i>Contrite</i>	451	F-2, bottom, 3 "	$\frac{3}{4}$	5 $\frac{1}{2}$	68.00
<i>Contrived</i>	452	F-2, capping, 3 "	$\frac{3}{4}$	5 $\frac{1}{2}$	32.00
<i>Contriver</i>	456	G-2, complete, 3 "	1	7	140.00
<i>Contriving</i>	457	G-2, bottom, 3 "	1	7	100.00
<i>Controllable</i>	458	G-2, capping, 3 "	1	7	40.00

Ornamental Moulding.

MADE IN TWO AND THREE WIRE, WITH  $\frac{1}{4}$  INCH GROOVE.

Code Word.	List No.	List Price.
<i>Hardihood</i>	590 Polished Oak, 2 wire, per foot.....	\$0.25
<i>Hardly</i>	591 " 3 " " .....	.30

<i>Hardening</i>	592 Polished Oak, 2 wire, per foot.....	.25
<i>Hardest</i>	593 " 3 " " .....	.30

<i>Harborless</i>	594 White and Gold, 2 wire, per foot.....	.30
<i>Hardened</i>	595 " " 3 " " .....	.40

<i>Harborer</i>	596 White and Gold, 2 wire, per foot.....	.30
<i>Harboring</i>	598 " " 3 " " .....	.40





McIntire Patent Wire Connectors.

Code Word.	List No.		List Price.
<i>Cherlessly</i>	18757	Twist connectors for No. 4 wire, B. & S. gauge, per 100.....	\$9.00
<i>Cheesey</i>	18758	Twist connector, for No. 6 wire, B. & S. gauge, per 100.....	8.00
<i>Chemically</i>	18759	Twist connector for No. 8 wire, B. & S. gauge, per 100.....	9.50
<i>Chemistry</i>	18760	Twist connector for No. 10 wire, B. & S. gauge, per 100.....	7.00
<i>Chenrits</i>	15416	Twist connector for No. 12 wire, B. & S. gauge, per 100.....	7.00
<i>Chemnitz</i>	15417	Twist connector for No. 14 wire, B. & S. gauge, per 100.....	7.00
<i>Chennitz</i>	15418	Twist connector, for No. 16 wire, B. & S. gauge, per 100.....	7.00
<i>Cheris</i>	18761	Solder connector for No. 0000 wire, B. & S. gauge, per 100.....	25.00
<i>Cherishing</i>	18762	Solder connector for No. 000 wire, B. & S. gauge; per 100.....	25.00
<i>Cheroot</i>	18763	Solder connector for No. 00 wire, B. & S. gauge, per 100.....	25.00
<i>Cherryly</i>	18764	Solder connector for No. 0 wire, B. & S. gauge, per 100.....	25.00



Turn Buckles.

Code Word.	List No.	Diameter of Thread, inches.	Length of Screw, inches.	Galvanized. List Price. Each.	Plain. List Price. Each.
<i>Slipshod</i>	24129	$\frac{7}{8}$	...	.95	.80
<i>Slipshoe</i>	24130	$\frac{1}{2}$	$3\frac{1}{2}$	1.00	.85
<i>Slipstop</i>	24131	$\frac{7}{8}$	4	1.10	.90
<i>Slipstring</i>	24132	$\frac{3}{4}$	5	1.30	1.10
<i>Slipthrift</i>	24133	$\frac{7}{8}$	6	1.50	1.25
<i>Slit</i>	24134	$\frac{1}{2}$	7	1.80	1.55
<i>Slither</i>	24135	$\frac{1}{2}$	12	2.75	2.40
<i>Slownliness</i>	24137	$\frac{3}{8}$	8	2.40	2.00
<i>Slownly</i>	24138	$\frac{3}{8}$	12	3.75	3.10
<i>Slow</i>	24139	$\frac{3}{8}$	9	3.50	2.75
<i>Slowback</i>	24140	$\frac{3}{8}$	12	5.40	4.25
<i>Slowly</i>	24141	$\frac{3}{8}$	10	4.25	3.50
<i>Slowness</i>	24142	1	11	5.50	4.25
<i>Slab</i>	24143	$1\frac{1}{8}$	14	7.00	5.25
<i>Slubber</i>	24144	$1\frac{1}{4}$	15	8.25	6.25

### Cutter Insulated Turnbuckle.



No. 24125.

Is made with heavy porcelain insulators secured to malleable iron forks. These give a double insulation, making the device very effective. The turnbuckle gives nine inches adjustment.

Code Word.	List No.	List Price.
<i>Slipperiness</i>	<b>24136</b> Complete	<b>.75</b>

### Cutter Insulated Suspension Bolt.



No. 24124.

Reduces the risk of grounds on suspension lamps by insulating the suspension wire or cable from the pole. Can also be used with guard wires or for railway suspensions. The fork is of malleable iron and well braced.

<i>Slipperily</i>	<b>24124</b> With 12-inch bolt	<b>\$0.25</b>
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### Cutter "Banner Core" Hoisting Rope.



A new brand of hoisting rope specially made for use with arc lamps or suspension street hoods. It is made of selected cotton stock, closely braided over a red, white and blue core; the cord is then treated so as to withstand the weather, making the strongest and most durable cord for outdoor use. The genuine has the distinctive "banner core."



<i>Slippery</i>	<b>24126</b>	1/4-inch, per 100 feet	<b>.90</b>
<i>Slippiness</i>	<b>24127</b>	5/8-inch, "	<b>1.44</b>
<i>Slippy</i>	<b>24128</b>	3/4-inch, "	<b>1.80</b>

### Pure Manilla Rope.

		Diam.	Weight of 1,000 Feet.	Number of Feet in One Pound.	Strength of New Manilla Rope.	Per Pound.
<i>Murdock</i>	<b>15420</b>	1/4	23	43	450	.30
<i>Murrocs</i>	<b>15421</b>	3/8	42	24	950	.30
<i>Muscotinc</i>	<b>15422</b>	1/2	74	13 1/2	1700	.28
<i>Muscoda</i>	<b>15423</b>	5/8	101	10	2300	.28
<i>Muskegan</i>	<b>15425</b>	3/4	132	7 1/2	3000	.25
<i>Mytic</i>	<b>15426</b>	1	167	6	3900	.24



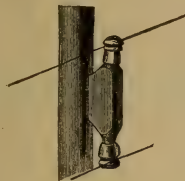
### Incandescent Street Brackets.



<i>Cherub</i>	<b>2795</b>	30-inch Straight Pipe Bracket, each	<b>1.00</b>
<i>Cherubim</i>	<b>2796</b>	Goose Neck Bracket, each	<b>1.10</b>

The above furnished in 3/4-inch and 1-inch pipe as desired.





No. 3000.

### Brown Duplex Bracket.

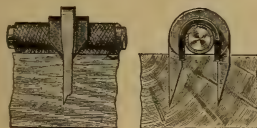
Code Word.	List No.	List Price.
<i>Citrate</i>	3000 Per 1,000 .....	\$35.00



No. 3610.

### Locke Indestructible Insulator Pin.

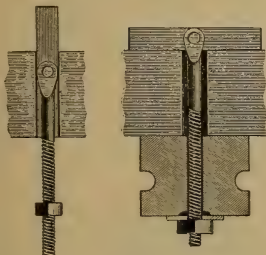
<i>Cam</i>	3610 Complete, with nut, etc., each .....	.20
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No. 1742.

### The "Insulating Saddle Staple."

<i>Centralize</i>	1742	For wire $\frac{1}{16}$ inch in diameter, per 1,000 .....	1.00
<i>Centrifugal</i>	1743	" $\frac{1}{16}$ " " " .....	1.25
<i>Centripetal</i>	1744	" $\frac{1}{16}$ " " " .....	1.50
<i>Centripetal</i>	1745	" $\frac{3}{16}$ " " " .....	2.50
<i>Centurion</i>	1746	" $\frac{5}{16}$ " " " .....	6.00
<i>Century</i>	1747	" $\frac{3}{8}$ " " " .....	5.50



No. 1648.

### Toggles.

For suspending fixtures, brackets, wood blocks, etc., to side walls or ceiling.

<i>David</i>	1648 Each .....	.10
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## Standard Cross Arms.



No. 23564.

Shipped direct from Bay City, Mich.  
Painted two coats red. Finished size  $3\frac{1}{4} \times 4\frac{1}{4}$  inches.  
Bored for  $1\frac{1}{2}$  inch pins and two  $\frac{1}{2}$  inch bolts unless otherwise specified.

Code Word.	List No.	Length.	Number of Pins.	End.	Spacings. Center.	Sides.	List Price. Each.
<i>Olley</i>	23563	3 feet,	2,	4 in..	23 in.,		
<i>Otaego</i>	23564	4 "	4 "	"	16 "	12 "	.12
<i>Ottawa</i>	23565	5 "	4 "	"	18 "	17 "	.15
<i>Otto</i>	23566	6 "	4 "	"	22 "	21 "	.21
<i>Ottumwa</i>	23567	6 "	6 "	"	16 "	12 "	.24
<i>Overton</i>	23568	8 "	6 "	"	18 "	17½ "	.33
<i>Ovid</i>	23569	8 "	8 "	"	16 "	12 "	.33
<i>Osaga</i>	23572	10 "	8 "	"	17½ "	15¾ "	.53
<i>Oxford</i>	23573	10 "	10 "	"	16 "	12 "	.55

## Telephone Cross Arms.

Shipped direct from Bay City, Mich.  
Painted two coats. Finished size  $2\frac{3}{4} \times 3\frac{3}{4}$  in.  
Bored for  $1\frac{1}{4}$  in. pins and two  $\frac{1}{2}$  in. bolts.

		Length.	Number of Pins.	End.	Spacings. Center.	Sides.	
<i>Newburn</i>	15460	24 in.	2	3 in.	18 in.		.08
<i>Newburg</i>	15461	30 "	2	"	24 "		.10
<i>Newton</i>	15462	36 "	2	"	30 "		.12
<i>Niagara</i>	15463	42 "	4	"	16 "	10 in.	.14
<i>Niantic</i>	15464	62 "	6	"	16 "	10 "	.21
<i>Nichols</i>	15465	82 "	8	"	16 "	10 "	.27
<i>Nicolleti</i>	15466	102 "	10	"	16 "	10 "	.35
<i>Niles</i>	15467	120 "	12	"	16 "	10 "	.45

Odd lengths same price as next longer arm having same number of pins. Odd spacing extra prices.

Above arms of best Michigan white pine. Special prices quoted on yellow pine arms and extra heavy arms.

## Stiff Steel Cross Arm Braces.



No. 15470.

$1\frac{1}{8}$  inches wide by  $\frac{7}{8}$  inches thick, punched for  $\frac{5}{8}$  inch lag screw in one end and  $\frac{3}{8}$  inch carriage bolt in the other.

## Plain.

		Approx. weight per 1000 pair.	
<i>Nina</i>	15470	20-inch, 2700 pounds, per 1000 pair.	90.00
<i>Nipton</i>	15471	24 " 3200 " "	108.00
<i>Nolin</i>	15472	26 " 3500 " "	125.00
<i>Noma</i>	15473	28 " 3900 " "	140.00

## Galvanized.

<i>Nora</i>	15475	20-inch, 2700 pounds, per 1000 pair.	135.00
<i>Norcross</i>	15476	24 " 3200 " "	160.00
<i>Norfolk</i>	15477	26 " 3500 " "	180.00
<i>Norman</i>	15478	28 " 3900 " "	200.00

Special dimension braces to order.



**Lag Bolts.**

Price per hundred.



Length.	$\frac{1}{4}$ in.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.
2	\$2.88	\$4.05	\$4.05	
2½	3.06	4.35	5.40	\$ 7.92
3	3.24	4.65	5.85	8.58
3½	3.42	4.95	6.30	9.24
4	3.60	5.25	6.75	9.90
4½	3.78	5.55	7.20	10.56
5	3.96	5.85	7.65	11.22
5½	4.14	6.15	8.10	11.88
6	4.32	6.45	8.55	12.54
7	4.68	7.05	9.45	13.86
8	5.04	7.65	10.35	15.18

**Carriage Bolts.**

Price per hundred.



Length.	$\frac{1}{4}$ in.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.
2	\$1.08	\$1.50	\$3.00	\$ 5.00.
2½	1.16	1.64	3.00	5.00
3	1.24	1.78	3.00	5.00
3½	1.28	1.85	3.10	5.15
3½	1.32	1.92	3.20	5.30
3¾	1.36	1.99	3.30	5.45
4	1.40	2.06	3.40	5.60
4¼	1.44	2.13	3.50	5.75
4½	1.48	2.20	3.60	5.90
4¾	1.52	2.27	3.70	6.05
5	1.56	2.34	3.80	6.20
5½	1.64	2.48	4.00	6.50
6	1.72	2.62	4.20	6.80
6½	1.80	2.76	4.40	7.10
7	1.88	2.90	4.60	7.40
7½	1.96	3.04	4.80	7.70
8	2.04	3.18	5.00	8.00

**Machine Bolts.**

Price per hundred.



Length.	$\frac{1}{4}$ in.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.
2½	\$1.86	\$2.64	\$4.00	\$5.80
3	1.94	2.76	4.20	6.10
3½	2.02	2.88	4.40	6.40
4	2.10	3.00	4.60	6.70
4½	2.18	3.12	4.80	7.00
5	2.26	3.24	5.00	7.30
5½	2.34	3.36	5.20	7.60
6	2.42	3.48	5.40	7.90
6½	2.50	3.60	5.60	8.20
7	2.58	3.72	5.80	8.50
7½	2.66	3.84	6.00	8.80
8	2.74	3.96	6.20	9.10
9	2.90	4.20	6.60	9.70
10	3.06	4.44	7.00	10.30

**Washers.**

At market prices.





## Wood Poles.

SPECIAL PRICES QUOTED ON APPLICATION.

### Round Cedar.

Length.	Top.	Weight in Lbs.	No. to Carload
25 feet.	5 inches.	200	120
25 "	6 "	275	110
30 "	6 "	325	100
30 "	7 "	450	80
35 "	6 "	500	120
35 "	7 "	600	110
40 "	6 "	700	100
40 "	7 "	800	90
45 "	6 "	950	82
45 "	7 "	1100	60
50 "	6 "	1250	40
50 "	7 "	1450	25
55 "	6 "	1500	30
55 "	7 "	1800	25

### Norway Pine.

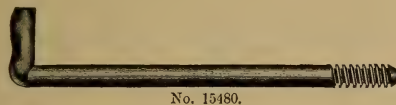
40 feet.	7 inches	1100	90
45 "	7 "	1200	80
50 "	7 "	1350	72
55 "	7 "	1500	65
60 "	7 "	1700	55
65 "	7 "	2000	45
70 "	7 "	2400	50
75 "	7 "	2800	45
80 "	7 "	3400	35
85 "	7 "	3800	30

### Norway Pine Octagonals.

28 feet.	6 inches.	9 inch butt.	75
28 "	7 "	10 "	60
28 "	8 "	11 "	50
30 "	6 "	9 "	75
30 "	7 "	10 "	60
30 "	8 "	11 "	50
32 "	6 "	9 "	65
32 "	7 "	10 "	50
32 "	8 "	11 "	40
34 "	6 "	9 "	65
34 "	7 "	10 "	50
34 "	8 "	11 "	40

Six feet of the butt treated with preservative, balance of pole painted drab, tops tipped.

# Pole Steps.



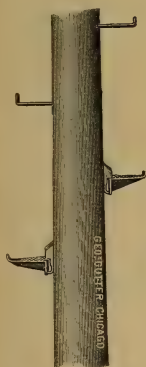
No. 15480.

Code Word	List No.		List Price. Per 100.
<i>Norton</i>	15480	$\frac{3}{8}$ "x9 Black .....	\$ 6.00
<i>Norwalk</i>	15481	$\frac{3}{8}$ "x9 Galvanized .....	8.00
<i>Norway</i>	15482	$\frac{3}{8}$ "x9 Black .....	7.00
<i>Norwich</i>	15483	$\frac{3}{8}$ "x9 Galvanized .....	9.00



No. 3528.

<i>Booby</i>	3528	8x $\frac{1}{2}$ " F.D black pole steps	6.50
<i>Book</i>	3529	9x $\frac{1}{2}$ " " " "	6.75
<i>Bookful</i>	3530	10x $\frac{1}{2}$ " " " "	7.00
<i>Booking</i>	3531	8x $\frac{3}{4}$ " " " "	6.70
<i>Bookish</i>	3532	9x $\frac{3}{4}$ " " " "	7.00
<i>Boom</i>	3533	10x $\frac{3}{4}$ " " " "	7.25
<i>Boomed</i>	3534	8x $\frac{1}{2}$ " " galv. " "	8.00
<i>Boomerang</i>	3535	9x $\frac{1}{2}$ " " " "	8.25
<i>Boot</i>	3536	10x $\frac{1}{2}$ " " " "	8.50
<i>Booted</i>	3537	8x $\frac{3}{4}$ " " " "	9.00
<i>Booth</i>	3538	9x $\frac{3}{4}$ " " " "	9.25
<i>Bootless</i>	3539	10x $\frac{3}{4}$ " " " "	9.50

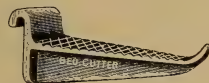


No. 24433.

# Cutter Detachable Polesteps.

Are easier to carry than a Trimmer's Ladder. A pair of Sockets are fastened to the pole and the trimmer carries a pair of Polesteps to fit them (weight per pair less than one pound). He slips the steps into their socket, goes up the pole to trim the lamp, then puts the steps into his pocket and goes on to the next lamp.

All of malleable iron, japanned.



No. 24434.

<i>Solarium</i>	24433	Sockets, per pair.....	\$0.20
<i>Solarization</i>	24434	Polesteps, per pair.....	.30



No. 15484.

# Guy Clamps.

	Diam. Rope.	Each.
<i>Oakville</i>	15484 $\frac{3}{8}$ "-inch .....	.25
<i>Oakland</i>	15485 $\frac{1}{2}$ " " .....	.30
<i>Oaklawn</i>	15486 $\frac{5}{8}$ " " .....	.35
<i>Oakdale</i>	15487 $\frac{3}{4}$ " " .....	.45
<i>Oakfield</i>	15488 $\frac{7}{8}$ " " .....	.45
<i>Oakford</i>	15489 1" " .....	.50
<i>Oakwood</i>	15490 1 $\frac{1}{8}$ " " .....	.50
<i>Obeida</i>	15491 1 $\frac{1}{4}$ " " .....	.50
<i>Oconto</i>	15492 1 $\frac{3}{8}$ " " .....	.55
<i>Ocean</i>	15493 1 $\frac{1}{2}$ " " .....	.60



No. 8640.



No. 8641.



No. 24446.



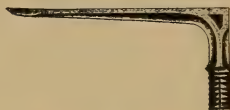
No. 24447.



No. 24448.



No. 24449.



No. 24450.



No. 24451.



No. 24452.

**"High Insulation" Brackets.****Break Arms.**

Code Word.	List No.	List Price Each.
<i>Cerata</i>	8640 Removable Pin, each .....	\$ 0.55
<i>Cerchus</i>	8641 Permahent Pin, each .....	.50
<i>Soldiery</i>	24446 Malleable Iron, Removable Pin, each .....	.40
<i>Sole</i>	24447 Malleable Iron, Solid Pin, each .....	.40

**Malleable Iron Ceiling Brackets.**

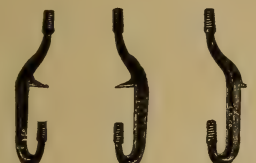
<i>Solecism</i>	24448 Single, each .....	.30
<i>Solecist</i>	24449 Double, each .....	.40

**Malleabe Iron Drive Brackets.**

<i>Solecistic</i>	24450 Upright.....	.15
<i>Solecistically</i>	24451 Thimble .....	.20
<i>Solecize</i>	24452 Right Forward.....	.15

# High Insulation Brackets.

## Loop or Spreader Brackets.



No. 8657. No. 8658. No. 8659.

Code Word.	List No.	List Price, Each.
<i>Cereul</i>	8657	Left, each ..... \$0.36
<i>Cerebrul</i>	8658	Right, each ..... .36
<i>Cerebrum</i>	8659	Forward, each ..... .36



No. 8662.



No. 8660.

<i>Cerement</i>	8660	Wall Bracket, each ..... .25
<i>Cercous</i>	8662	Roof Bracket, straight, each ..... .20



No. 24453.



No. 8661.

<i>Ceremony</i>	8661	Roof Bracket, offset, each ..... .25
<i>Solcyl</i>	24453	Malleable Wall Bracket, each ..... .12



No. 24454.

## Malleable Iron Roof Bracket.

<i>Solemn</i>	24454	Each ..... .12
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No. 24455.

## Malleable Iron Pins.

<i>Solemnity</i>	24455	5 inches above Cross Arm ..... .15
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No. 24456.

<i>Solemnize</i>	24456	8½ inches above Cross Arm ..... .20
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# "High Insulation" Brackets—(Continued)



No. 8663



No. 8642.



No. 8643.



No. 8644.



No. 8645.



No. 8646.



No. 8647.



No. 8648.



No. 9468.



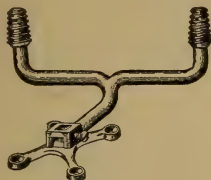
No. 2891.

Code Word.	List No.	List Price.
<i>Ceres</i>	8663 Lateral Bracket, right, each.....	\$0.30
<i>Corky</i>	8642 Cornice Brackets, each.....	.30
<i>Cerin</i>	8643 Lateral Brackets, left, each.....	.30
<i>Cerile</i>	8644 Ceiling Bracket, each.....	.30
<i>Certain</i>	8645 Ceiling Bracket, each.....	.40
<i>Certainly</i>	8646 Combination Bracket, each.....	.30
<i>Certainness</i>	8647 Reflector Bracket, each.....	.60
<i>Certificate</i>	8648 Converter Bracket, each.....	.50
<i>Certified</i>	9468 Side Bracket, each.....	.15

## Fletcher's Double Pin Bell Break Arm.

FOR USE WITH CONVERTERS AND SWITCHES.

<i>Certify</i>	2891 Each.....	1.00
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No. 8992.

# Galvanized House Brackets.

WITH VENTILATED THREADS.

Code Word.	List No.	List Price.
<i>Chicken</i>	8992 Each .....	\$0.35



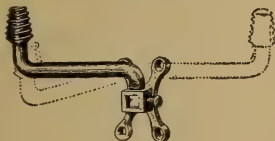
No. 8993.

<i>Chickory</i>	8993 Each .....	.20
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No. 8994.

<i>Chide</i>	8994 Each .....	.20
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No. 8995.

<i>Chider</i>	8995 Each .....	.25
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No. 8996.

<i>Chiding</i>	8996 Each .....	.25
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No. 8997.

<i>Chief</i>	8997 Each .....	.20
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## Galvanized Wall Plates.

## WITH PORCELAIN KNOBS

Code Word.	List No.	List Price.
<i>Chew.</i>	9065	Each ..... \$0.10



No. 9065.



No. 9066.

<i>Chewing</i>	9066	Each ..... .20
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No. 9067.

<i>Chicanery</i>	9067	Each ..... .30
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No. 8636.

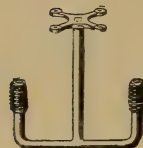
## House Brackets.

<i>Certitude</i>	8636	Adjustable House Bracket, each ..... .45
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No. 8637.

<i>Cessation</i>	8637	Adjustable House Bracket, each ..... .45
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No. 8638.

<i>Cessible</i>	8638	Galvanized Ventilated Thread Bracket, each... .40
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No. 8639.

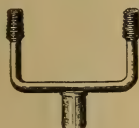
<i>Cession</i>	8639	Galvanized Ventilated Thread Bracket, each... .50
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No. 9068.

## House Brackets—(Continued).

Code Word.	List No.	List Price.
<i>Cessment</i>	9068	Galvanized Ventilated Thread Bracket, each... \$0.50



No. 9069.

<i>Cesspool</i>	9069	Galvanized Ventilated Thread Bracket, each... .40
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No. 9070.

<i>Cesspool</i>	9070	Galvanized Ventilated Thread Bracket, each... .50
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No. 9071.

<i>Cesspool</i>	9071	Galvanized Ventilated Thread Bracket, each... .50
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No. 9072.

<i>Chiefly</i>	9072	Galvanized Ventilated Thread Bracket, each... .50
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No. 8966.

## House Brackets—(Continued).

Code Word.  
*Clabber*

List No.

List Price.

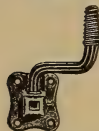
8966 Galvanized Ventilated Thread Bracket, each... \$0.50



No. 8967.

*Civilly*

8967 Galvanized Ventilated Thread Bracket, each. .50



No. 8968.

## Universal House Bracket.

CAN BE PLACED IN ANY POSITION.

*Chieftain*

8968 Extra Heavy, each..... .35



No. 8969.

*Civilly*

## House Brackets.

GALVANIZED, WITH VENTILATED THREADS.

8969 Each..... .25





No. 8970.

**House Brackets—(Continued).**

Code Word.	List No.	List Price.
<i>Civilized</i>	8970 Each .....	\$0.15



No. 8971.

<i>Civilizer</i>	8971 Each .....	.20
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No. 8972.

<i>Civilizing</i>	8972 Each .....	.25
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# Wire, Cord and Cable.

## Habirshaw White Core.

### Solid Conductors, Braided.

### Stranded Conductors, Braided.

Code Word.	List No.	Gauge B. & S.	Approx. Outside Diam. in 32ds of in.	Price per 1000 Ft.	Code Word.	List No.	Gauge B. & S.	Approx. Outside Diam. in 32ds of in.	Price per 1000 Ft.
<i>Solicitation</i>	25001	14	6	\$15.00	<i>Solidity</i>	25013	8	10	\$50.00
<i>Solicitor</i>	25002	12	7	23.00	<i>Solidly</i>	25014	6	11	62.00
<i>Sollicitous</i>	25003	10	8	30.00	<i>Solidness</i>	25015	5	13	78.00
<i>Solicitously</i>	25004	8	9	36.00	<i>Solidfian</i>	25016	4	13½	96.00
<i>Solicitress</i>	25005	6	10	50.00	<i>Soliloquize</i>	25017	3	14½	136.00
<i>Solicitude</i>	25006	5	12	69.60	<i>Soliloquy</i>	25018	2	16	156.00
<i>Solidarity</i>	25007	4	13	76.00	<i>Soliped</i>	25019	1	17	200.00
<i>Solidate</i>	25008	3	13½	90.00	<i>Solitary</i>	25020	0	18	210.00
<i>Solify</i>	25009	2	14½	118.00	<i>Solitarily</i>	25021	00	19	228.00
<i>Solidism</i>	25010	1	15½	135.00	<i>Solitariness</i>	25022	000	21	260.00
<i>Solidist</i>	25011	0	16½	180.00	<i>Solitary</i>	25023	0000	24	340.00

## Habirshaw Standard Red Core.

No. 3000.

### Solid Conductor, 500 Volts, Taped Outside.

Code Word.	List No.	Gauge B. & S.	Approximate Outside Diam. in 32nds of an Inch.	List Price, per Foot.
<i>Abacus</i>	3000	18	4	\$.02½
<i>Abaft</i>	3001	16	5½	.02¾
<i>Abandoner</i>	3002	14	6	.03¾
<i>Abandoning</i>	3003	12	7	.04¾
<i>Abase</i>	3004	10	8	.06¾
<i>Abasement</i>	3005	8	9	.08¾
<i>Abash</i>	3006	6	10	.11¾
<i>Abashed</i>	3007	5	12	.13¾
<i>Abashing</i>	3008	4	13	.15¾
<i>Abate</i>	3009	3	13½	.18
<i>Abated</i>	3010	2	14½	.23½
<i>Abatement</i>	3011	1	15½	.31½
<i>Abater</i>	3012	0	16½	.41

### Solid Conductor, 500 Volts, Braided Outside.

No. 3013.

		Gauge B. & S.	Approximate Outside Diam. in 32nds of an Inch.	
<i>Abattoir</i>	3013	18	4	.02¾
<i>Abbacy</i>	3014	16	5½	.03
<i>Abbeas</i>	3015	14	6	.03¾
<i>Abbey</i>	3016	12	7	.05
<i>Abject</i>	3017	10	8	.06¾
<i>Abjection</i>	3018	8	9	.08¾
<i>Abjectly</i>	3019	6	10	.12
<i>Abjectness</i>	3020	5	12	.14
<i>Abjure</i>	3021	4	13	.16
<i>Ablation</i>	3022	3	13½	.18¾
<i>Ablative</i>	3023	2	14½	.24¾
<i>Ablaze</i>	3024	1	15½	.32¾
<i>Able</i>	3025	0	16½	.43

## Habirshaw Standard Red Core—(Continued).



Stranded Conductor, 500 Volts, Braided Outside.

No 3026

Code Word.	List No.	Gauge. B. & S.	Circular Mils.	Approximate Outside Diameter in Stads of an inch.	List Price per Foot.
<i>Ablution</i>	3026	12	6,529	7	\$.05½
<i>Ablly</i>	3027	10	10,381	8	.07
<i>Abnegate</i>	3028	8	16,509	10	.10½
<i>Abnormal</i>	3029	6	26,250	11	.17½
<i>Aboard</i>	3030	5	33,102	13	.19½
<i>Abode</i>	3031	4	41,742	13½	.24½
<i>Abolish</i>	3032	3	52,634	14½	.29½
<i>Abolisher</i>	3033	2	66,373	16	.32½
<i>Abolition</i>	3034	1	83,694	17	.36
<i>Abominably</i>	3035	0	103,592	18	.47½
<i>Abominate</i>	3036	00	133,079	19	.60
<i>Abyminated</i>	3037	000	167,865	21	.68
• <i>Abominating</i>	3038	0000	211,600	24	.88



## Grimshaw White Core Wire.

Solid Conductor, Double Coated, Taped, Black or White Braid.

	Trade No.	B. & S. Gauge.	Safe Carrying Capacity, Bare Wire, in Amps. 100° F.	Circular Mils. (sq.) 1 MIL= .001 Inch.	Outside Diam. of Insulation, .001 Inch.	Price per 100 Feet.
<i>Archives</i>	3104	220	18	0	1624.	\$1.90
<i>Archness</i>	3105	221	18	8	1624.	1.56
<i>Archway</i>	3106	223	16	10	2583.	2.15
<i>Archwise</i>	3107	224	16	10	2583.	1.56
<i>Arctic</i>	3108	228	14	15	4107.	2.70
<i>Arduour</i>	3109	229	14	15	4107.	2.18
<i>Area</i>	3110	231	12	21	6580.	3.50
<i>Arena</i>	3111	232	12	21	6580.	3.70
<i>Argent</i>	3112	235	10	32	10381.	4.50
<i>Argument</i>	3113	236	10	32	10381.	5.00
<i>Arid</i>	3114	237	8	44	16509.	5.50
<i>Aridity</i>	3115	238	8	44	16509.	6.50
<i>Aright</i>	3116	239	6	60	26250.	8.25
<i>Arise</i>	3117	240	6	60	26250.	9.50
<i>Arisen</i>	3118	241	5	68	33102.	9.80
<i>Aristocrat</i>	3119	242	5	68	33102.	10.25
<i>Ark</i>	3120	243	4	88	41742.	10.50
<i>Armorer</i>	3122	244	4	88	41742.	12.50
<i>Armorial</i>	3123	245	3	104	52634.	12.75
<i>Armoria</i>	3124	245½	3	104	52634.	14.25
<i>Armory</i>	3125	246	2	118	66373.	15.75
<i>Armpit</i>	3126	246½	2	118	66373.	17.25
<i>Army</i>	3127	247	1	135	83694.	21.00
<i>Arnot</i>	3128	247½	1	135	83694.	23.00
<i>Arousing</i>	3129	248	0	179	105592.	27.25
<i>Arras</i>	3130	248½	0	179	105592.	30.75

## Grimshaw White Core Wire—(Continued).

## Stranded Conductors, Double Coated, Taped, Black or White Braid.

Code Word.	List No.	Trade No.	B. & G. Gauge.	Safe Carrying Capacity, Bare Wire in Amp. 120° F.	Circular Mils. (sq.) 1 Mil. = .001 inch.	Outside Diam. of Insulation. .001 inch.	List Price, per 100 Ft.
<i>Assayer</i>	3131	704	8	44	16509.	.343	\$8.00
<i>Assaying</i>	3132	705	6	60	26250.	.375	9.50
<i>Assesure</i>	3133	706	6	60	26250.	.437	11.00
<i>Assemblage</i>	3134	707	5	68	33102.	.461	12.00
<i>Assemblance</i>	3135	708	4	83	41742.	.461	14.50
<i>Assembling</i>	3136	709	5	83	41742.	.523	16.00
<i>Assembly</i>	3137	710	3	104	52634.	.483	18.00
<i>Assent</i>	3138	711	3	104	52634.	.545	19.50
<i>Assenter</i>	3139	712	2	118	66373.	.539	20.00
<i>Assenting</i>	3140	713	2	118	66373.	.601	23.00
<i>Assentment</i>	3141	714	1	135	83694.	.544	27.00
<i>Assert</i>	3142	715	1	135	83694.	.606	30.00
<i>Asserted</i>	3143	716	0	179	105592.	.593	30.00
<i>Asserting</i>	3144	717	0	179	105592.	.656	35.50
<i>Assertion</i>	3145	718	00	210	133079.	.656	38.00
<i>Assertive</i>	3146	719	00	210	133079.	.718	43.00
<i>Assessable</i>	3147	720	000	251	167805.	.718	48.00
<i>Assession</i>	3148	721	000	251	167805.	.791	53.00
<i>Assessor</i>	3149	722	0000	275	211600.	.718	58.00
<i>Assesverate</i>	3150	723	0000	275	211600.	.791	63.00

## Raven Core Wire—Braided.

## Solid.

<i>Deputing</i>	1229	320	18	6	1624.	.125	1.65
<i>Deputy</i>	1230	321	18	6	1624.	.156	1.75
<i>Derange</i>	1231	323	16	10	2583.	.125	1.75
<i>Deranged</i>	1232	324	16	10	2583.	.156	1.85
<i>Derangement</i>	1233	327	14	15	4107.	.156	2.10
<i>Derelect</i>	1234	328	14	15	4107.	.187	2.30
<i>Deride</i>	1235	331	12	21	6530.	.218	3.25
<i>Deriding</i>	1236	332	12	21	6530.	.250	3.55
<i>Derision</i>	1237	334	10	32	10381.	.218	4.00
<i>Derivation</i>	1238	335	10	32	10381.	.250	4.10
<i>Derive</i>	1239	337	8	44	16509.	.281	4.75
<i>Deriving</i>	1241	338	8	44	16509.	.343	5.75
<i>Derogation</i>	1242	339	6	60	26250.	.343	6.50
<i>Derogatory</i>	1243	340	6	60	26250.	.406	8.40
<i>Despotic</i>	1244	341	5	68	33102.	.406	8.90
<i>Despotism</i>	1245	342	5	68	33102.	.468	9.50
<i>Destination</i>	1246	343	4	83	41742.	.406	9.60
<i>Destine</i>	1247	344	4	83	41742.	.468	11.50
<i>Destiny</i>	1248	345	3	104	52634.	.437	11.25
<i>Destitution</i>	1249	346	3	104	52634.	.500	12.75
<i>Destroy</i>	1250	347	2	118	66373.	.468	14.75
<i>Destroying</i>	1251	348	2	118	66373.	.531	16.25
<i>Destructible</i>	1252	349	1	135	83694.	.500	19.00
<i>Destructive</i>	1253	350	1	135	83694.	.563	21.00
<i>Desultory</i>	1254	351	0	179	105592.	.531	26.25
<i>Detach</i>	1255	352	0	179	105592.	.592	29.75



## Raven Core Wire—Braided—(Continued).

Code Word.	List No.	Trade No.	R. & S. Gauge.	Safe Carrying Capacity. B. re Wire in Amp. 120° F.		Circular Mils. (d <sup>2</sup> ) 1 Mil. = .001 inch.	Outside Diam. of Insulation. .001 inch.	List Price. per 100 Ft.
<i>Emarginate</i>	1869	804	8	44		16509.	.343	\$6.25
<i>Embassy</i>	1870	805	6	60		26250.	.375	7.75
<i>Embedded</i>	1871	806	6	60		26250.	.437	9.00
<i>Embellish</i>	1872	807	5	68		33102.	.461	9.75
<i>Embers</i>	1873	808	4	83		41742.	.461	12.00
<i>Emberle</i>	1874	809	4	83		41742.	.523	15.00
<i>Emanated</i>	1875	810	3	104		52634.	.483	16.60
<i>Emanation</i>	1876	811	3	104		52634.	.545	18.00
<i>Emancipate</i>	1877	812	2	118		66373.	.539	19.00
<i>Emancipator</i>	1878	813	2	118		66373.	.601	22.00
<i>Emancipist</i>	1879	814	1	135		83694.	.544	26.00
<i>Emanuel</i>	1880	815	1	135		83694.	.606	29.00
<i>Elude</i>	1881	816	0	179		105592.	.593	28.25
<i>Elvira</i>	1882	817	0	179		105592.	.656	32.15
<i>Emaciate</i>	1883	818	00	210		133079.	.656	36.00
<i>Emaciated</i>	1884	819	00	210		133079.	.718	41.00
<i>Emaculate</i>	1885	820	000	251		167905.	.718	42.50
<i>Emanate</i>	1886	821	000	251		167805.	.729	47.50
<i>Embolden</i>	1887	822	0000	275		211600.	.718	55.00
<i>Embosom</i>	1888	823	0000	275		211600.	.791	60.00

## Grimshaw Duplex Fixture Wire.

Listful	List No.	Taped or Braided.	R. & S. Gauge.	Safe Carrying Cap., each Cond. Bare Wire, in Amp. 120° F.		Outside Diam. of Insulation .001 inch.	List Price. per 100 Ft.
<i>Listful</i>	1169	Taped.....	14	15		.218	5.00
<i>Listless</i>	1170	" .....	16	10		.218	4.50
<i>Literal</i>	1171	" .....	18	6		.218	4.00
<i>Literalism</i>	1172	Braided.....	14	15		.218	5.00
<i>Literalness</i>	1173	" .....	16	10		.218	4.50
<i>Literary</i>	1174	" .....	18	6		.218	4.00



## Okonite Wire.

LOW TENSION CURRENTS, FROM 100 TO 500 VOLTS.

## Solid Conductor, Plain Finish.



Code Word.	List No.	Size of Conductor A. W. G.	Outside Diameter of Insulation, Inches.	Approximate Weight per Mile. Pounds.	Insulation Resistance per Mile. Megohms.	List Price, Per foot.
<i>Ascendant</i>	3158	22	.075	32	500	\$ .01 1/4
<i>Ascending</i>	3159	20	.091	42	500	.02 1/2
<i>Ascension</i>	3160	18	.102	56	500	.02 1/2
<i>Ascertain</i>	3161	16	.120	78	500	.03
<i>Ascetic</i>	3162	14	.148	127	500	.04 1/2
<i>Ascribe</i>	3163	12	.165	178	500	.05 1/2
<i>Ascribing</i>	3164	10	.175	236	500	.06 1/2
<i>Ashamed</i>	3165	9	.182	273	500	.07
<i>Ashore</i>	3166	8	.192	333	500	.08
<i>Ashpan</i>	3167	7	.220	422	500	.09 1/2
<i>Assassin</i>	3168	6	.252	534	500	.12 1/2
<i>Assassinate</i>	3169	5	.276	663	500	.15 1/2
<i>Assation</i>	3170	4	.300	815	500	.19 1/2
<i>Assault</i>	3171	3	.340	1,036	500	.23
<i>Assaulted</i>	3172	2	.372	1,233	500	.28
<i>Assaulting</i>	3173	1	.430	1,657	500	.35
<i>Assay</i>	3174	0	.500	2,134	500	.45
<i>Assayed</i>	3175	00	.560	2,693	500	.60

## Solid Conductor, Braided Finish.

<i>Alertness</i>	3211	22	.075	40	500	.02 1/4
<i>Alexand</i>	3212	20	.091	50	500	.02 1/2
<i>Alfred</i>	3213	18	.102	66	500	.03
<i>Algebra</i>	3214	16	.120	90	500	.03 1/2
<i>Algebraical</i>	3215	14	.148	143	500	.04 1/2
<i>Algernon</i>	3216	12	.165	195	500	.06
<i>Algous</i>	3217	10	.175	254	500	.07 1/2
<i>Alice</i>	3218	9	.182	291	500	.07 3/4
<i>Alias</i>	3219	8	.192	351	500	.08 3/4
<i>Alienable</i>	3220	7	.220	446	500	.11 1/2
<i>Alienation</i>	3221	6	.252	563	500	.13 1/2
<i>Alienator</i>	3222	5	.276	702	500	.16 1/2
<i>Alience</i>	3223	4	.300	859	500	.19 1/2
<i>Alife</i>	3224	3	.340	1,087	500	.24 1/2
<i>Align</i>	3225	2	.372	1,299	500	.29 1/2
<i>Aliment</i>	3226	1	.430	1,750	500	.37
<i>Alimental</i>	3227	0	.500	2,238	500	.47 1/2
<i>Alimentally</i>	3228	00	.560	2,799	500	.61

## Okonite Wire—(Continued).

## Stranded Conductor, Plain Finish.



Code Word.	List No.	Size of Conductor Equiv. A. W. G.	No. of Strands. B. W. G.	Outside Diameter of Insulation. Inches.	Approx. Weight per Mile. Pounds.	Insulation Resistance per Mile. Megohms.	List Price. per foot.
Assistless	3176	22	7x30*	.091	35	500	\$0.02¼
Assize	3177	20	7x30	.102	46	500	.02½
Assized	3178	18	7x20*	.114	63	500	.03½
Assizer	3179	16	7x24	.144	101	500	.04½
Associable	3180	14	7x23	.162	139	500	.05½
Associate	3181	12	7x20*	.182	191	500	.06½
Associated	3182	11	7x20	.192	214	500	.07½
Associating	3183	10	7x18*	.204	270	500	.08½
Associative	3184	9	7x17*	.212	325	500	.09¼
Associator	3185	8	7x18	.220	360	500	.09½
Assoil	3186	7	7x17	.238	463	500	.11¼
Assoilment	3187	6	7x16	.289	623	500	.15¼
Assonance	3188	5	7x15	.300	735	500	.16¼
Assonant	3189	4	7x14	.340	953	500	.21¼
Assuage	3190	3	7x11*	.380	1,155	500	.26
Assuaged	3191	2	19x17	.440	1,409	500	.34½
Assuaging	3192	1	19x16	.480	1,730	500	.41¼
Assuative	3193	0	19x15	.530	2,110	500	.50
Assuetude	3194	00	12x12	.590	2,810	500	.61
Assume	3195	000	19x11*	.620	3,120	500	.69
Assumed	3196	0000	19x12	.730	4,460	500	.98

## Stranded Conductor, Braided Finish.

Alimentary	3229	22	7x30*	.091	44	500	.02¼
Alimentation	3230	20	7x30	.102	56	500	.03¼
Aliquant	3231	18	7x26*	.114	75	500	.03¾
Alirnot	3232	16	7x24*	.144	118	500	.05
Alive	3233	14	7x23	.162	157	500	.06
Alkali	3234	12	7x20*	.182	209	500	.07½
Alkaline	3235	11	7x20	.192	232	500	.08
Alkaloid	3236	10	7x18*	.204	295	500	.09
Allan	3237	9	7x17*	.212	348	500	.10
Alloy	3238	8	7x18	.220	384	500	.10½
Allegation	3239	7	7x17	.238	495	500	.12¼
Allege	3240	6	7x16	.289	660	500	.16¼
Alleging	3241	5	7x15	.300	780	500	.18
Albant	3242	4	7x14	.340	1,007	500	.22½
Albid	3042	3	7x11*	.390	1,212	500	.27¼
Aligate	3243	2	19x17	.440	1,473	500	.36½
Alision	3244	1	19x16	.480	1,803	500	.42¼
Aliteration	3245	0	19x15	.530	2,192	500	.52
Allopathy	3246	00	12x12*	.590	2,897	500	.63
Allot	3247	000	19x12	.620	3,250	500	.71
Allotment	3248	0000	19x12	.730	4,606	500	1.01

\*American Wire Gauge.

## Kerite Wire—Solid.

## Plain.



Code Word.	List No	COPPER.		INSULATION.		List Price, per 100 ft.
		B. & S. Gauge.	Diameter of Copper, Mils.	Diameter of Insulation, Mils.	Diameter of Insulation, Inches.	
<i>Haggled</i>	1889	20	.0319	.073	$\frac{5}{64}$	\$1.75
<i>Hagglting</i>	1890	20	.0319	.093	$\frac{3}{8}$	1.75
<i>Hailing</i>	1891	18	.040	.078	$\frac{5}{64}$	1.75
<i>Nailstone</i>	1892	18	.040	.093	$\frac{3}{8}$	1.90
<i>Halberd</i>	1893	18	.040	.125	$\frac{1}{2}$	2.00
<i>Haleyon</i>	1894	16	.050	.093	$\frac{3}{8}$	2.00
<i>Nalibut</i>	1895	16	.050	.125	$\frac{1}{2}$	2.25
<i>Halliard</i>	1896	16	.050	.156	$\frac{5}{16}$	2.75
<i>Halter</i>	1897	14	.064	.125	$\frac{1}{2}$	2.50
<i>Halting</i>	1898	14	.064	.156	$\frac{3}{8}$	3.00
<i>Halving</i>	1899	14	.064	.187	$\frac{9}{16}$	3.25
<i>Ham</i>	1900	14	.064	.218	$\frac{7}{8}$	3.75
<i>Hamble</i>	1901	12	.080	.156	$\frac{5}{8}$	3.25
<i>Hamlet</i>	1902	12	.080	.187	$\frac{3}{4}$	3.75
<i>Hammering</i>	1903	12	.080	.250	$\frac{3}{4}$	5.50
<i>Hammock</i>	1904	10	.101	.218	$\frac{7}{8}$	5.75
<i>Hamper</i>	1905	10	.101	.250	$\frac{1}{2}$	6.25
<i>Hampered</i>	1906	8	.128	.218	$\frac{7}{8}$	7.00
<i>Hampering</i>	1907	8	.128	.250	$\frac{3}{4}$	8.25
<i>Hamstring</i>	1908	8	.128	.281	$\frac{1}{2}$	9.75
<i>Hanaper</i>	1909	7	.144	.250	$\frac{3}{4}$	8.50
<i>Handcuff</i>	1910	7	.144	.281	$\frac{1}{2}$	10.00
<i>Handcuffed</i>	1911	6	.162	.250	$\frac{3}{8}$	9.00
<i>Handfast</i>	1912	6	.162	.281	$\frac{3}{8}$	9.50
<i>Handicraft</i>	1913	6	.162	.312	$\frac{1}{2}$	10.75
<i>Handiness</i>	1914	5	.181	.281	$\frac{9}{16}$	10.50
<i>Handle</i>	1915	5	.181	.312	$\frac{1}{2}$	11.00
<i>Handling</i>	1916	4	.204	.281	$\frac{9}{16}$	11.50
<i>Hannah</i>	1917	4	.204	.312	$\frac{1}{2}$	12.50
<i>Handscrew</i>	1918	4	.204	.375	$\frac{1}{2}$	14.00
<i>Handsome</i>	1919	3	.229	.375	$\frac{1}{2}$	13.50
<i>Handsomely</i>	1920	3	.229	.437	$\frac{1}{2}$	17.50
<i>Hang</i>	1932	2	.257	.406	$\frac{1}{2}$	19.00
<i>Hanged</i>	1933	2	.257	.468	$\frac{1}{2}$	23.00
<i>Hanging</i>	1934	1	.289	.500	$\frac{1}{2}$	25.00
<i>Hangman</i>	1935	1	.289	.562	$\frac{1}{2}$	27.00
<i>Hangnail</i>	1936	0	.324	.562	$\frac{1}{2}$	30.00
<i>Harker</i>	1937	0	.324	.625	$\frac{1}{2}$	34.00
<i>Hankering</i>	1938	00	.364	.562	$\frac{1}{2}$	35.00
<i>Hapless</i>	1939	00	.364	.625	$\frac{1}{2}$	40.00

## Kerite Wire—Solid—(Continued).

## Taped or Braided.

Code Word.	List No.	COPPER.		INSULATION.			List Price per 100 Ft.
		B. & S. Gauge.	Diam. of Copper, Mils.	Diam. of Insulation, Mils.	Diam. of Insulation, Inches.	Outside Diam. Braid, Inches.	
<i>Haply</i>	1950	20	.0319	.078	$\frac{5}{16}$	$\frac{5}{16}$	\$2.00
<i>Happen</i>	1951	20	.0319	.093	$\frac{5}{16}$	$\frac{5}{16}$	2.00
<i>Happening</i>	1952	18	.040	.078	$\frac{5}{16}$	$\frac{5}{16}$	2.00
<i>Happily</i>	1953	18	.040	.093	$\frac{5}{16}$	$\frac{5}{16}$	2.15
<i>Happiness</i>	1954	18	.040	.125	$\frac{5}{16}$	$\frac{5}{16}$	2.25
<i>Happy</i>	1955	16	.050	.093	$\frac{5}{16}$	$\frac{5}{16}$	2.25
<i>Harangue</i>	1956	16	.050	.125	$\frac{5}{16}$	$\frac{5}{16}$	2.50
<i>Harangued</i>	1957	16	.050	.156	$\frac{5}{16}$	$\frac{5}{16}$	3.00
<i>Haranguing</i>	1958	14	.064	.125	$\frac{5}{16}$	$\frac{5}{16}$	2.75
<i>Harass</i>	1959	14	.064	.156	$\frac{5}{16}$	$\frac{5}{16}$	3.25
<i>Harassing</i>	1960	14	.064	.187	$\frac{5}{16}$	$\frac{5}{16}$	3.50
<i>Harbinger</i>	1961	14	.064	.218	$\frac{5}{16}$	$\frac{5}{16}$	4.00
<i>Harbor</i>	1962	12	.080	.156	$\frac{4}{8}$	$\frac{5}{16}$	3.50
<i>Harborage</i>	1963	12	.080	.187	$\frac{4}{8}$	$\frac{5}{16}$	4.00
<i>Habit</i>	1964	12	.080	.250	$\frac{4}{8}$	$\frac{1}{2}$	5.75
<i>Habitation</i>	1965	10	.101	.218	$\frac{3}{8}$	$\frac{5}{16}$	6.00
<i>Habited</i>	1966	10	.101	.250	$\frac{3}{8}$	$\frac{1}{2}$	6.50
<i>Habitual</i>	1967	8	.128	.218	$\frac{3}{8}$	$\frac{5}{16}$	7.25
<i>Habitude</i>	1968	8	.128	.250	$\frac{3}{8}$	$\frac{1}{2}$	8.50
<i>Hack</i>	1969	8	.128	.281	$\frac{3}{8}$	$\frac{1}{2}$	10.00
<i>Hacking</i>	1970	7	.144	.250	$\frac{3}{8}$	$\frac{1}{2}$	9.00
<i>Hackney</i>	1971	7	.144	.281	$\frac{3}{8}$	$\frac{1}{2}$	10.50
<i>Haddock</i>	1972	6	.162	.250	$\frac{3}{8}$	$\frac{1}{2}$	9.50
<i>Hades</i>	1973	6	.162	.281	$\frac{3}{8}$	$\frac{1}{2}$	10.00
<i>Haggard</i>	1974	6	.162	.312	$\frac{1}{2}$	$\frac{1}{2}$	11.25
<i>Haggardly</i>	1975	5	.181	.281	$\frac{3}{8}$	$\frac{1}{2}$	11.00
<i>Haggle</i>	1976	5	.181	.312	$\frac{1}{2}$	$\frac{1}{2}$	11.75
<i>Embroid</i>	1977	4	.204	.281	$\frac{3}{8}$	$\frac{1}{2}$	12.25
<i>Embryo</i>	1978	4	.204	.312	$\frac{1}{2}$	$\frac{1}{2}$	13.25
<i>Embryonic</i>	1979	4	.204	.375	$\frac{1}{2}$	$\frac{1}{2}$	14.75
<i>Emerge</i>	1980	3	.229	.375	$\frac{1}{2}$	$\frac{1}{2}$	14.50
<i>Emergency</i>	1981	3	.229	.437	$\frac{1}{2}$	$\frac{1}{2}$	18.50
<i>Emerging</i>	1982	2	.257	.406	$\frac{1}{2}$	$\frac{1}{2}$	20.00
<i>Embottling</i>	1983	2	.257	.468	$\frac{1}{2}$	$\frac{1}{2}$	24.00
<i>Embracing</i>	1984	1	.289	.500	$\frac{1}{2}$	$\frac{1}{2}$	26.00
<i>Embraceure</i>	1985	1	.289	.562	$\frac{1}{2}$	$\frac{1}{2}$	28.00
<i>Embrace</i>	1986	0	.324	.562	$\frac{1}{2}$	$\frac{1}{2}$	32.00
<i>Embroglio</i>	1987	0	.324	.625	$\frac{1}{2}$	$\frac{1}{2}$	36.00
<i>Embroider</i>	1988	00	.364	.562	$\frac{1}{2}$	$\frac{1}{2}$	38.00
<i>Emily</i>	1989	00	.364	.625	$\frac{1}{2}$	$\frac{1}{2}$	44.00

## Kerite Wire.—(Continued.)

## Stranded Electric Light Conductors.

## Plain Insulation.

Gauge B. & S.	Strands.	Insulation Outside Diam Mils. .001 in.	Insulation Outside Diam Inches	Price per 100 Feet
6	7 x 14	A 312.5	10-32	11.00
6	7 x 16	B 375	12-32	13.00
6	7 x 16	B 437.5	14-32	16.50
5	7 x 15	B 375	12-32	13.00
5	7 x 15	B 437.5	14-32	17.25
4	7 x 12	A 375	12-32	15.00
4	7 x 12	A 437.5	14-32	18.00
4	7 x 12	A 500	16-32	22.00
3	1 x 12—6 x 14 B	375	12-32	17.50
3	1 x 12—6 x 14 B	406.2	13-32	18.50
3	1 x 12—6 x 14 B	500	15-32	21.00
2	1 x 12—6 x 13 B	406.2	13-32	19.00
2	1 x 12—6 x 13 B	437.5	14-32	20.50
2	1 x 16—18 x 17 B	468.7	15-32	22.00
1	1 x 11—6 x 12 B	437.5	14-32	24.00
1	1 x 15—18 x 16 B	500	16-32	26.00
0	1 x 10—6 x 11 B	562.5	18-32	30.00
00	1 x 14—18 x 15 B	625	20-32	34.00
00	7 x 7	A 562.5	18-32	36.00
00	19 x 12	A 625	20-32	41.00
00	1 x 13—18 x 14 B	687.5	22-32	45.00
000	1 x 8—6 x 9 B	625	20-32	60.00
000	19 x 11	A 687.5	22-32	63.00
000	19 x 11	A 750	24-32	66.00
0000	7 x 7	B 687.5	22-32	76.00
0000	19 x 12	B 750	24-32	82.00
0000	19 x 12	B 812.5	26-32	88.00

## Covered Insulation.

Gauge B. & S.	Insulation. Outside Diam. Mils. .001 in.	Insulation. Outside Diam. Inches.	List Prices per 100 Feet. Braided.	List Prices per 100 Feet Taped and Braided.
6	312.5	10-32	12.00	13.00
6	375	12-32	14.00	15.00
6	437.5	14-32	17.50	18.50
5	375	12-32	14.00	15.00
5	437.5	14-32	18.25	19.25
4	375	12-32	16.00	17.00
4	437.5	14-32	19.00	20.00
4	500	16-32	23.00	24.00
3	375	12-32	18.50	19.50
3	406.2	13-32	20.50	21.50
3	500	15-32	22.00	23.00
2	406.2	13-32	20.00	21.00
2	437.5	14-32	21.50	23.00
2	468.7	15-32	23.50	25.00
1	437.5	14-32	25.50	28.00
1	500	16-32	28.00	30.00
0	562.5	18-32	32.00	34.00
0	625	20-32	36.00	38.00
00	562.5	18-32	38.00	40.00
00	625	20-32	43.00	45.00
00	687.5	22-32	47.00	50.00
000	625	20-32	62.00	66.00
000	687.5	22-32	66.00	70.00
000	750	24-32	70.00	75.00
0000	687.5	22-32	80.00	85.00
0000	750	24-32	85.00	90.00
0000	812.5	26-32	93.00	98.00




**"CLARK" WIRE.**
**Clark Wire.****Solid.**

Code Word	List No.	B. & S.	Diam. Wire in the decimal of an inch.	Diam. Gum 32d of inch.	Total Diam. Outside Braid.	Approximate Pounds Per 100 Feet.	Price Per 100 Feet.
<i>Sluggard</i>	24150	18	.040	4-32	5-32	2.35	<b>\$1.65</b>
<i>Sluggardy</i>	24151	16	.051	5-32	6-32	2.70	<b>1.80</b>
<i>Sluggish</i>	24152	14	.064	5-32	6-32	3.20	<b>1.80</b>
<i>Sluggishly</i>	24153	14	.064	6-32	7-32	3.40	<b>2.00</b>
<i>Sluggy</i>	24154	14	.064	7-32	8-32	4.79	<b>3.00</b>
<i>Slugs</i>	24155	12	.081	6-32	7-32	4.30	<b>2.50</b>
<i>Sluice</i>	24156	12	.081	7-32	8-32	5.30	<b>3.00</b>
<i>Sluicigate</i>	24157	10	.102	8-32	10-32	7.00	<b>4.00</b>
<i>Sluicy</i>	24158	10	.102	9-32	11-32	7.77	<b>4.50</b>
<i>Slum</i>	24159	9	.114	9-32	11-32	8.00	<b>4.60</b>
<i>Slumber</i>	24160	8	.129	9-32	11-32	10.12	<b>4.70</b>
<i>Slumberer</i>	24161	8	.129	10-32	12-32	10.92	<b>6.00</b>
<i>Slumberless</i>	24162	7	.144	9-32	11-32	10.25	<b>6.20</b>
<i>Slumbery</i>	24163	6	.162	10-32	12-32	14.00	<b>7.20</b>
<i>Slump</i>	24164	6	.162	12-32	14-32	15.57	<b>9.00</b>
<i>Slumpy</i>	24165	6	.162	14-32	16-32	18.72	<b>10.80</b>
<i>Slung</i>	24166	5	.182	12-32	14-32	16.00	<b>9.60</b>
<i>Slungshot</i>	24167	4	.204	12-32	14-32	20.33	<b>10.00</b>
<i>Slunk</i>	24168	4	.204	14-32	16-32	21.87	<b>12.00</b>
<i>Slur</i>	24169	3	.229	15-32	17-32	23.00	<b>12.60</b>
<i>Slurred</i>	24170	2	.258	16-32	18-32	31.25	<b>15.30</b>
<i>Slush</i>	24171	1	.289	17-32	20-32	43.78	<b>20.70</b>
<i>Slushy</i>	24172	0	.324	19-32	22-32	50.00	<b>24.00</b>
<i>Slutch</i>	24173	00	.365	21-32	22-32	54.00	<b>30.00</b>
<i>Slutchy</i>	24174	000	.409	23-32	25-32	66.50	<b>37.00</b>
<i>Sly</i>	24175	0000	.460	25-32	27-32	81.00	<b>45.00</b>

**Stranded.**

<i>Smeir</i>	24200	10	....	10-32	12-32	10.94	<b>5.40</b>
<i>Smell</i>	24201	8	....	10-32	12-32	14.06	<b>7.20</b>
<i>Smeller</i>	24202	6	....	12-32	14-32	20.31	<b>10.80</b>
<i>Smelting</i>	24203	4	....	14-32	16-32	21.87	<b>13.00</b>
<i>Smelt</i>	24204	3	....	16-32	19-32	29.69	<b>16.00</b>
<i>Smelter</i>	24205	2	....	17-32	19-32	34.37	<b>18.00</b>
<i>Smeltery</i>	24206	1	....	18-32	21-32	43.75	<b>24.00</b>
<i>Smertlin</i>	24207	0	....	22-32	25-32	59.37	<b>30.00</b>
<i>Snew</i>	24208	00	....	24-32	27-32	65.63	<b>35.00</b>
<i>Smicker</i>	24209	000	....	26-32	29-32	75.50	<b>42.00</b>
<i>Smirket</i>	24210	0000	....	28-32	31-32	90.00	<b>50.00</b>

## Flexible Clark Wire.

Diameter of Insulation given is exclusive of Outside Braid.

Made up of No. 26 B. W. G. Wire.

Code Word.	List No.	No. B. & S. Gauge.	Diam. Wire in the decimal of an inch.	Circular Mils Ds	Number of Wires.	Diam. Gum 32d of inch.	Price per 100 Feet.
<i>Smilukine</i>	24212	18	.040	1624.3	5	5-32	\$2.70
<i>Smilux</i>	24214	16	.051	2582.7	8	5-32	2.70
<i>Smile</i>	24215	14	.064	4106.8	13	7-32	3.60
<i>Smileless</i>	24216	12	.081	6529.9	21	8-32	5.40
<i>Smiles</i>	24217	10	.102	10382.	35	9-32	7.20
<i>Smilingly</i>	24218	8	.129	16510.	56	12-32	10.80
<i>Smilingness</i>	24219	7	.144	20817.	63	12-32	12.00
<i>Smirch</i>	24220	6	.162	26250.	84	14-32	14.40
<i>Smirk</i>	24221	5	.182	33102.	105	14-32	18.00
<i>Smirky</i>	24222	4	.204	41742.	126	15-32	21.60
<i>Smite</i>	24223	3	.229	52634.	161	17-32	25.20
<i>Smiter</i>	24224	2	.258	66373.	203	18-32	28.80
<i>Smith</i>	24225	1	.289	83694.	259	20-32	32.40
<i>Smither</i>	24226	0	.324	105534.	329	22-32	37.20
<i>Smithery</i>	24227	00	.365	133079.	413	24-32	43.20
<i>Smithing</i>	24228	000	.410	167805.	528	26-32	52.80
<i>Smithsonian</i>	24229	0000	.460	211600.	651	28-32	64.80

## Clark Elevator Electric Light Cable.

## Braided.

		B. & S.	Diam. Gum 32d of inch.	Total Diam. Braided.	Price per 100 Feet
<i>Smithy</i>	24230	18 Duplex	8-32	9-32	6.00
<i>Smitt</i>	24231	16 "	9-32	11-32	7.00
<i>Smitten</i>	24232	14 "	12-32	27-64	8.00
<i>Smittle</i>	24233	12 "		16-32	14.00



## Safety Wire.

Plain, without Tape or Braid.

Code Word.	List No.	Gauge B. & S.	Outside Diam. of Insulation.	Insulation Resistance per Mile. Megohms.	Price per 100 Feet.
<i>Smock</i>	24234	20	3-32	1000	2.25
<i>Smockable</i>	24235	18	4-32	1500	2.50
<i>Smoke</i>	24236	16	4-32	1000	2.75
<i>Smokeurch</i>	24237	14	5-32	2000	3.75
<i>Smokebull</i>	24238	12	6-32	1500	4.50
<i>Smokebox</i>	24239	10	6-32	1000	5.50
<i>Smokejack</i>	24240	10	7-32	1500	6.25
<i>Smokeless</i>	24241	8	7-32	1000	7.50
<i>Smoker</i>	24242	8	8-32	1500	8.00
<i>Smokecoil</i>	24243	6	9-32	1500	11.25

Gauges from No. 20 to No. 4 Braided. Gauges above  
No. 4 Taped and Braided.

		Gauge B. & S.	Outside Diam. of Insulation.	Outside Diam. Braided.	Insulation Resistance per Mile Megohms.	Price per 100 Feet.
<i>Smaketree</i>	24244	20	3-32	4-32	1000	2.50
<i>Smakity</i>	24245	18	4-32	5-32	1500	2.50
<i>Smakiness</i>	24246	16	4-32	5-32	1000	3.00
<i>Smakny</i>	24247	14	5-32	6-32	2000	3.85
<i>Smalder</i>	24248	12	6-32	7-32	1500	5.00
<i>Smaldry</i>	24249	10	6-32	7-32	1000	6.75
<i>Smolt</i>	24250	8	8-32	9-32	1500	9.00
<i>Smooth</i>	24251	6	9-32	10-32	1500	12.50
<i>Smoothe</i>	24252	4	11-32	12-32	1000	16.50
<i>Smoothing</i>	24253	2	13-32	14-32	1000	25.00
<i>Smoothly</i>	24254	1	15-32	16-32	1200	35.00

## Stranded Conductors.

Heavy Insulation, Taped and Braided.

		Gauge B. & S.	Outside Diam. of Insulation.	Outside Diam. Taped and Braided.	Insulation Resistance per Mile. Megohms.	Price per 100 Feet.
<i>Smoothness</i>	24255	8	9-32	11-32	1200	10.00
<i>Smoothsando</i>	24256	6	10-32	12-32	1200	14.50
<i>Smother</i>	24257	6	11-32	13-32	1500	17.50
<i>Smothery</i>	24258	4	12-32	14-32	1000	21.00
<i>Smouch</i>	24259	4	13-32	15-32	1500	25.00
<i>Smudge</i>	24260	2	15-32	17-32	1500	28.50
<i>Smug</i>	24261	1	16-32	18-32	1200	37.50
<i>Smuggle</i>	24262	0	19-32	21-32	1500	48.00
<i>Smugly</i>	24263	00	.....	22-32	1500	58.50
<i>Smugness</i>	24264	000	.....	24-32	1500	72.50
<i>Smuly</i>	24265	0000	.....	26-32	1500	90.00

## Safety Lead Incased Wire.

### For Underground Purposes.

Covered with Heavy Rubber Insulation. Taped and Lead Incased.

Code Word.	List No.	Sizes, B. & S. Gauge.		Price per Foot.
<i>Sau</i>	24266	0000	Stranded.	\$1.00
<i>Snatch</i>	24267	000	"	.90
<i>Snaynint</i>	24268	00	"	.80
<i>Snack</i>	24269	0	"	.70
<i>Snackit</i>	24270	1	"	.64
<i>Snact</i>	24271	1	Solid.	.60
<i>Snafflo</i>	24272	2	Stranded.	.56
<i>Snay</i>	24273	2	Solid.	.54
<i>Snayged</i>	24274	4	Stranded.	.50
<i>Snaygy</i>	24275	4	Solid.	.36
<i>Snall</i>	24276	6	Stranded.	.36
<i>Snake</i>	24277	6	Solid.	.32
<i>Snakeroot</i>	24278	7	Stranded.	.30
<i>Snakerced</i>	24279	7	Solid.	.26
<i>Snakewood</i>	24280	8	Stranded.	.26
<i>Snakish</i>	24281	8	Solid.	.22
<i>Snaky</i>	24282	10	"	.18
<i>Snayp</i>	24283	12	"	.12
<i>Snayplock</i>	24284	11	"	.07

## Safety Flexible Cables.

### For Switchboards, Dynamos and Lamps.

Composed of Fine Copper Wire, No. 25 B. & S. Gauge, well Tinned  
Taped and Braided.

		Equal in Conductivity to B. & S. Gauge No.	Insulation Resistance per Mile. Megohms.	Price per 100 Feet.
<i>Snapper</i>	24285	14	1000	12.00
<i>Snappish</i>	24286	12	1000	13.00
<i>Snappishly</i>	24287	10	1000	13.50
<i>Snappy</i>	24288	9	1000	14.00
<i>Snave</i>	24289	8	1000	15.00
<i>Snarl</i>	24290	6	1000	16.50
<i>Snarler</i>	24291	4	1000	20.00
<i>Snary</i>	24292	2	1000	30.00
<i>Snatch</i>	24293	1	1000	40.00
<i>Snatcher</i>	24294	0	1000	50.00
<i>Snatchingly</i>	24295	00	1000	60.00
<i>Snath</i>	24296	.000	1000	75.00
<i>Snead</i>	24297	0000	1000	95.00

## Safety White Core Wire.

## Stranded Conductor.

## Taped and Braided.

Code Word.	List No.	Gauge B. & S.	Outside Diam. of Insulation	Insulation Resistance per Mile Megohms.	Price per 100 Feet
<i>Socle</i>	24380	0	21-32	1590	48.80
<i>Socman</i>	24381	00	22-32	1500	59.30
<i>Socmanry</i>	24382	000	24-32	1500	73.30
<i>Socky</i>	24379	0000	26-32	1500	90.80

## Solid Conductor.

Gauges from No. 20 to No. 4 Braided. Gauges above  
No. 4 Taped and Braided.

		Gauge B. & S.	Outside Diam. of Insulation.	Outside Diam. Braided.	Insulation Resistance per Mile Megohms.	Price per 100 Feet.
<i>Soculity</i>	24368	20	3-32	4-32	1000	2.90
<i>Socialness</i>	24369	18	4-32	5-32	1500	2.90
<i>Society</i>	24370	16	4-32	5-32	1000	3.40
<i>Society</i>	24371	14	5-32	6-32	2000	4.25
<i>Socinian</i>	24372	12	6-32	7-32	1500	5.40
<i>Socinianism</i>	24373	10	6-32	7-32	1000	7.15
<i>Sociology</i>	24374	8	8-32	9-32	1500	9.40
<i>Sociologic</i>	24375	6	9-32	10-32	1500	13.30
<i>Sock</i>	24376	4	11-32	12-32	1000	17.30
<i>Sockstolager</i>	24377	2	13-32	14-32	1000	25.80
<i>Sockless</i>	24878	1	15-32	16-32	1200	35.80

## Low Tension Simplex Cables.

## Tape and Two Braids over Rubber.

## Stranded Conductor.

Code Word.	List No.	Size.	Strands.	Weight per mile incl'd g Reels.	Outside Diameter.	Price per 1,000 Feet.
<i>Softner</i>	24413	2,000,000 C. M.	91	45,000	2 6-32	\$3247.60
<i>Softness</i>	24414	1,750,000 "	91	40,000	2 2-32	2859.80
<i>Soggy</i>	24415	1,500,000 "	91	35,000	1 30-32	2474.50
<i>Soil</i>	24416	1,250,000 "	61	29,000	1 25-32	2072.20
<i>Soiliness</i>	24417	1,000,000 "	61	23,000	1 18-32	1665.00
<i>Soilless</i>	24418	950,000 "	61	22,000	1 17-32	1578.90
<i>Soilure</i>	24419	900,000 "	61	21,000	1 16-32	1514.50
<i>Soily</i>	24420	850,000 "	61	20,000	1 15-32	1430.60
<i>Soivre</i>	24421	800,000 "	61	19,000	1 13-32	1332.50
<i>Sojourn</i>	24422	750,000 "	61	18,000	1 12-32	1257.20
<i>Sojourner</i>	24423	700,000 "	61	17,000	1 11-32	1184.40
<i>Sojourning</i>	24424	650,000 "	61	16,000	1 10-32	1104.20
<i>Sol</i>	24425	600,000 "	61	15,000	1 9-32	1031.50
<i>Solace</i>	24426	550,000 "	61	14,000	1 8-32	965.50
<i>Solacement</i>	24427	500,000 "	61	12,500	1 6-32	873.60
<i>Solacious</i>	24428	450,000 "	37	11,500	1 4-32	776.00
<i>Solannacious</i>	24429	400,000 "	37	10,500	1 3-32	706.40
<i>Solander</i>	24430	350,000 "	37	9,000	1	609.60
<i>Solantine</i>	24431	300,000 "	37	8,000	31-32	540.90
<i>Solano</i>	24432	250,000 "	37	7,000	29-32	459.70



## Simplex Lead-Covered Cables, Low Tension.

## Stranded Conductor.

Code Word.	List No.	Size.	Strands.	Wall Lead.	Outside Diameter.	Price per 1,000 Ft.
<i>Socom</i>	24383	1,000,000 C. M.	61	3-32	1 22-32	\$1958.10
<i>Socotran</i>	24384	900,000 "	61	3-32	1 20-32	1837.48
<i>Socatrine</i>	24385	800,000 "	61	3-32	1 18-32	1677.84
<i>Socratric</i>	24386	700,000 "	61	3-32	1 13-32	1400.04
<i>Socratically</i>	24387	600,000 "	61	3-32	1 11-32	1254.60
<i>Socratism</i>	24388	500,000 "	61	5-64	1 8-32	1078.76
<i>Socratist</i>	24389	400,000 "	37	5-64	1 4-32	864.36
<i>Sod</i>	24390	300,000 "	37	5-64	1 1-32	705.40
<i>Soda</i>	24391	250,000 "	37	5-64	30-32	587.50

B. & S.  
Gauge.

<i>Sodalite</i>	24392	0000	37	5-64	29-32	540.40
<i>Sodality</i>	24393	000	37	5-64	27-32	458.40
<i>Sodimeter</i>	24394	00	19	5-64	25-32	381.86
<i>Sodden</i>	24395	0	19	5-64	24-32	342.88
<i>Soddy</i>	24396	1	19	1-16	20-32	245.44
<i>Soder</i>	24397	2	19	1-16	19-32	217.64
<i>Sodium</i>	24398	3	19	1-16	18-32	185.58
<i>Sodomite</i>	24399	4	19	1-16	17-32	163.50
<i>Sodomitical</i>	24400	6	19	1-16	16-32	138.16

## Solid Conductor.

<i>Sofa</i>	24401	1		1-16	19-32	224.52
<i>Sofett</i>	24402	2		1-16	18-32	195.58
<i>Sofi</i>	24403	3		1-16	17-32	170.26
<i>Sofism</i>	24404	4		1-16	16-32	147.32
<i>Soffet</i>	24405	6		1-16	15-32	121.82
<i>Soft</i>	24406	8		1-16	14-32	101.00
<i>Soften</i>	24407	10 (8-32)		3-64	12-32	67.26
<i>Softener</i>	24408	10 (7-32)		3-64	10-32	56.32
<i>Softish</i>	24409	12 (7-32)		3-64	10-32	53.62
<i>Softling</i>	24410	12 (6-32)		3-64	9-32	49.80
<i>Softly</i>	24411	14 (6-32)		3-64	9-32	48.28
<i>Softman</i>	24412	14 (5-32)		3-64	8-32	39.96

## Simplex Caoutchouc Wire.

## Solid Conductor, Braided.

Code Word.	List No.	Size. B. & S. Gauge.	Diameter over Rubber.	Diameter over Braiding.	Price per Foot.
<i>Sneak</i>	24298	1	14-32	17-32	.31½
<i>Sneaker</i>	24299	2	13-32	16-32	.26½
<i>Sneaking</i>	24300	3	12-32	15-32	.22½
<i>Sneakingness</i>	24301	4	11-32	14-32	.17½
<i>Sneap</i>	24302	5	10-32	12-32	.15
<i>Sneck</i>	24303	6	9-32	11-32	.12½
<i>Sneckband</i>	24304	7	17-64	21-64	.11
<i>Sned</i>	24305	8	8-32	10-32	.09½
<i>Sneer</i>	24306	9	15-64	9-32	.08½
<i>Sneerer</i>	24307	10	7-32	8-32	.07½
<i>Sneerful</i>	24308	12	6-32	7-32	.05½
<i>Sneeringly</i>	24309	14	5-32	6-32	.03½
<i>Sneez</i>	24310	16	9-34	11-64	.03½
<i>Sneezweed</i>	24311	18	4-32	5-32	.03½

## Stranded Conductor, Braided.

		Size B. & S. Gauge.	Number of Strands.	Diameter over Rubber.	Diameter over Braiding.	Price per Foot.
<i>Sneezewort</i>	24312	0000	37	22-32	26-32	.76
<i>Sneezewood</i>	24313	000	37	20-32	24-32	.64
<i>Snell</i>	24314	00	19	18-32	22-32	.50½
<i>Snep</i>	24315	0	19	17-32	21-32	.44½
<i>Snickup</i>	24316	1	19	15-32	18-32	.34½
<i>Snicker</i>	24317	2	19	14-32	17-32	.31½
<i>Sniff</i>	24318	3	7	13-32	16-32	.25
<i>Snift</i>	24319	4	7	12-32	15-32	.21½
<i>Snig</i>	24320	5	7	11-32	14-32	.17½
<i>Snigger</i>	24321	6	7	10-32	12-32	.14½
<i>Sniggle</i>	24322	7	7	19-64	23-64	.12½
<i>Snip</i>	24323	8	7	9-32	11-32	.11½
<i>Snipe</i>	24324	9	7	17-64	10-32	.11
<i>Snipebill</i>	24325	10	7	8-32	9-32	.09½
<i>Snipefish</i>	24326	12	7	7-32	8-32	.07½
<i>Snipper</i>	24327	14	7	6-32	7-32	.06½
<i>Snipsnap</i>	24328	16	7	5-32	6-32	.04½

## Climax Wire.

## Solid Conductors, Braided.

Code Word.	List No.	Size B. & S. Gauge.	Diameter over Rubber.	Diameter over Braiding.	Price per Foot.
<i>Snithy</i>	24329	1	14-32	16-32	\$ .29½
<i>Snivel</i>	24330	2	13-32	15-32	.24½
<i>Sniveler</i>	24331	3	12-32	14-32	.20½
<i>Snively</i>	24332	4	11-32	25-64	.16½
<i>Snob</i>	24333	5	10-32	11-32	.13½
<i>Snobbery</i>	24334	6	9-32	10-32	.10½
<i>Snobbish</i>	24335	8	8-32	9-32	.08
<i>Snobbishly</i>	24336	10	7-32	8-32	.05½
<i>Snobbishness</i>	24337	12	6-32	7-32	.04½
<i>Snobbism</i>	24338	14	5-32	6-32	.03½

## Stranded Conductors, Braided.

		B. & S. Gauge.	No. of Strands.	Diam. over Rubber.	Diam. over Braiding.	
<i>Snorking</i>	24339	0000	37	22-32	25-32	.73
<i>Snorky</i>	24340	000	37	20-32	23-32	.60½
<i>Snoil</i>	24341	00	19	18-32	21-32	.48
<i>Snoip</i>	24342	0	19	17-32	20-32	.41
<i>Soapsuds</i>	24343	1	19	15-32	17-32	.31½
<i>Soapport</i>	24344	2	19	14-32	16-32	.26½
<i>Soapy</i>	24345	3	7	13-32	15-32	.21½
<i>Soar</i>	24346	4	7	12-32	27-64	.18
<i>Sob</i>	24347	5	7	11-32	12-32	.15½
<i>Sober</i>	24348	6	7	10-32	11-32	.12½
<i>Soberize</i>	24349	8	7	9-32	10-32	.09½
<i>Soberly</i>	24350	10	7	8-32	9-32	.07½

## Simplex Caoutchouc Mining Wire.

## Solid Conductor.

		B. & S. Gauge.	Diam. over Rubber.	Covering over Rubber.	
<i>Sobcrness</i>	24351	1	17-32	Tape and 3 Braids.	.44½
<i>Sobolts</i>	24352	2	16-32	" 3 "	.39½
<i>Soboliferous</i>	24353	3	15-32	" 2 "	.33
<i>Sobriety</i>	24354	4	14-32	" 2 "	.28½
<i>Sobriquet</i>	24355	5	12-32	3 Braids.	.21½
<i>Soc</i>	24356	6	11-32	3 "	.18½
<i>Socage</i>	24357	8	9-32	3 "	.13½
<i>Socager</i>	24358	10	8-32	3 "	.10½
<i>Socinbility</i>	24359	12	7-32	3 "	.08½
<i>Sociable</i>	24360	14	6-32	3 "	.06½

## Stranded Conductor.

		B. & S. Gauge.	No. of Strands.	Diam. over Rubber.	Covering over Rubber.	
<i>Sociableness</i>	24361	0000	37	26-32	Tape and 3 Braids.	1.03
<i>Sociably</i>	24362	000	37	24-32	" 3 "	.88½
<i>Social</i>	24363	00	19	22-32	" 3 "	.73½
<i>Socialism</i>	24364	0	19	20-32	" 3 "	.62½
<i>Socialist</i>	24365	1	19	18-32	" 3 "	.52½
<i>Socialistic</i>	24366	2	19	17-32	" 3 "	.44½
<i>Socialize</i>	24367	3	7	16-32	" 2 "	.36½
<i>Socially</i>	24368	4	7	15-32	" 2 "	.32½

## Magnet Wire.

## Single Cotton Covered.



Nos. 3879 to 3901.



Nos. 1700 to 1720.

Code Word.	List No.	B. & S. Gauge Size.	List Price.
<i>Aluminor</i>	3879	0000 Per pound.....	\$0.44
<i>Allured</i>	3880	000 "	.44
<i>Allusive</i>	3881	00 "	.44
<i>Allusively</i>	3882	0 "	.44
<i>Almandine</i>	3883	1 "	.43
<i>Almightily</i>	3884	2 "	.43
<i>Almighty</i>	3885	3 "	.43
<i>Almhouse</i>	3886	4 "	.43
<i>Aloof</i>	3887	5 "	.44
<i>Aloud</i>	3888	6 "	.44
<i>Alph</i>	3889	7 "	.44
<i>Alphabet</i>	3890	8 "	.44
<i>Alpin</i>	3891	9 "	.46
<i>Already</i>	3892	10 "	.46
<i>Alt</i>	3893	11 "	.48
<i>Altar</i>	3894	12 "	.48
<i>Alterable</i>	3895	13 "	.54
<i>Alterage</i>	3896	14 "	.54
<i>Altered</i>	3897	15 "	.59
<i>Alternate</i>	3898	16 "	.56
<i>Alternative</i>	3899	17 "	.59
<i>Alternatively</i>	3900	18 "	.59
<i>Alternity</i>	3901	19 "	.60
<i>Jingling</i>	1700	20 "	.60
<i>Joan</i>	1701	21 "	.70
<i>Jockey</i>	1702	22 "	.76
<i>Jockeying</i>	1703	23 "	.83
<i>Jean</i>	1704	24 "	.90
<i>Jears</i>	1705	25 "	1.00
<i>Jeer</i>	1706	26 "	1.10
<i>Jeered</i>	1707	27 "	1.25
<i>Jeerer</i>	1708	28 "	1.35
<i>Jeering</i>	1709	29 "	1.50
<i>Jungly</i>	1710	30 "	1.65
<i>Junior</i>	1711	31 "	1.80
<i>Jockeyism</i>	1712	32 "	1.95
<i>John</i>	1713	33 "	2.40
<i>Joinder</i>	1714	34 "	2.85
<i>Jollify</i>	1715	35 "	3.25
<i>Jolliment</i>	1716	36 "	4.37
<i>Jollity</i>	1717	37 "	6.75
<i>Jonas</i>	1718	38 "	9.00
<i>Jonathan</i>	1719	39 "	11.00
<i>Joseph</i>	1720	40 "	13.00

## Magnet Wire—(Continued).

## Double Cotton Covered



Nos. 3902 to 3924.



Nos. 1721 to 1741.

Code Word.	List No.	B. & S. Gauge Size.	List Price.
<i>Although</i>	3902	0000 Per pound.....	\$0.45
<i>Altitude</i>	3903	000 ".....	.45
<i>Alum</i>	3904	00 ".....	.45
<i>Always</i>	3905	0 ".....	.45
<i>Amain</i>	3906	1 ".....	.43½
<i>Ambrose</i>	3907	2 ".....	.43½
<i>Ambrosia</i>	3908	3 ".....	.43½
<i>Ambrosial</i>	3909	4 ".....	.43½
<i>Ambrosian</i>	3910	5 ".....	.45
<i>Ambry</i>	3911	6 ".....	.45
<i>Ambulant</i>	3912	7 ".....	.47
<i>Ambulate</i>	3913	8 ".....	.47
<i>Ambulation</i>	3914	9 ".....	.48½
<i>Ambulative</i>	3915	10 ".....	.48½
<i>Ambulatory</i>	3916	11 ".....	.52
<i>Ambuscade</i>	3917	12 ".....	.52
<i>Ambuscaded</i>	3918	13 ".....	.58
<i>Ambushed</i>	3919	14 ".....	.58
<i>Amelia</i>	3920	15 ".....	.60
<i>Amenable</i>	3921	16 ".....	.60
<i>Amend</i>	3922	17 ".....	.65½
<i>Amended</i>	3923	18 ".....	.65½
<i>Amendment</i>	3924	19 ".....	.71½
<i>Joyful</i>	1721	20 ".....	.74
<i>Joyfully</i>	1722	21 ".....	.88
<i>Joyfulness</i>	1723	22 ".....	.95
<i>Joyous</i>	1724	23 ".....	1.05
<i>Joyously</i>	1725	24 ".....	1.14
<i>Joyousness</i>	1726	25 ".....	1.27
<i>Jubilant</i>	1727	26 ".....	1.38
<i>Jubilate</i>	1728	27 ".....	1.57
<i>Jubilation</i>	1729	28 ".....	1.69
<i>Judah</i>	1730	29 ".....	1.89
<i>Judicial</i>	1731	30 ".....	2.07
<i>Judicious</i>	1732	31 ".....	2.23
<i>Josephine</i>	1733	32 ".....	2.28
<i>Joshua</i>	1734	33 ".....	2.85
<i>Josiah</i>	1735	34 ".....	3.42
<i>Jostle</i>	1736	35 ".....	3.88
<i>Jostled</i>	1737	36 ".....	4.93
<i>Jore</i>	1738	37 ".....	7.25
<i>Joriat</i>	1739	38 ".....	9.50
<i>Joriaty</i>	1740	39 ".....	12.00
<i>Joy</i>	1741	40 ".....	15.00



## Magnet Wire—(Continued).

## Single Silk Covered.

Code Word.	List No.		List Price.
<i>Jeopardy</i>	1650	No. 16 per pound.....	\$1.12
<i>Jerboa</i>	1651	" 17, " .....	1.12
<i>Jeremiah</i>	1652	" 18, " .....	1.15
<i>Jeremiah</i>	1653	" 19, " .....	1.15
<i>Jerker</i>	1654	" 20, " .....	1.18
<i>Jerkin</i>	1655	" 21, " .....	1.20
<i>Jersey</i>	1656	" 22, " .....	1.30
<i>Jerusha</i>	1657	" 23, " .....	1.42
<i>Jerwin</i>	1658	" 24, " .....	1.56
<i>Jested</i>	1659	" 25, " .....	1.81
<i>Jester</i>	1660	" 26, " .....	2.10
<i>Jestful</i>	1661	" 27, " .....	2.25
<i>Jesting</i>	1662	" 28, " .....	2.38
<i>Jesuit</i>	1663	" 29, " .....	2.75
<i>Jehovah</i>	1664	" 30, " .....	2.95
<i>Jehovist</i>	1665	" 31, " .....	3.25
<i>Jelly</i>	1666	" 32, " .....	3.45
<i>Jemima</i>	1667	" 33, " .....	3.90
<i>Jennet</i>	1668	" 34, " .....	4.10
<i>Jenneting</i>	1669	" 35, " .....	5.85
<i>Jentling</i>	1670	" 36, " .....	7.00
<i>Jeopard</i>	1671	" 37, " .....	11.00
<i>Jeoparder</i>	1672	" 38, " .....	13.00
<i>Jeoparding</i>	1673	" 39, " .....	15.00
<i>Jeopardize</i>	1674	" 40, " .....	20.00

## Double Silk Covered.

<i>Jesuitic</i>	1675	No. 16, per pound.....	1.53
<i>Jetsam</i>	1676	" 17 " .....	1.53
<i>Jettison</i>	1677	" 18 " .....	1.57
<i>Jetteau</i>	1678	" 19 " .....	1.57
<i>Jetty</i>	1679	" 20, " .....	1.61
<i>Jewel</i>	1680	" 21, " .....	1.63
<i>Jeweled</i>	1681	" 22, " .....	1.76
<i>Jeweler</i>	1682	" 23, " .....	1.93
<i>Jeweling</i>	1683	" 24, " .....	2.13
<i>Jewelry</i>	1684	" 25, " .....	2.48
<i>Jewess</i>	1685	" 26, " .....	2.88
<i>Jewish</i>	1686	" 27, " .....	3.07
<i>Jib</i>	1687	" 28, " .....	3.23
<i>Jibboom</i>	1688	" 29, " .....	3.76
<i>Jibdoor</i>	1689	" 30, " .....	4.02
<i>Jibe</i>	1690	" 31, " .....	4.40
<i>Jibbing</i>	1691	" 32, " .....	4.53
<i>Jigger</i>	1692	" 33, " .....	5.10
<i>Jiggish</i>	1693	" 34, " .....	5.30
<i>Jiggling</i>	1694	" 35, " .....	7.78
<i>Jill</i>	1695	" 36, " .....	8.88
<i>Jilled</i>	1696	" 37, " .....	13.63
<i>Jilting</i>	1697	" 38, " .....	14.50
<i>Jingle</i>	1698	" 39, " .....	18.00
<i>Jingled</i>	1699	" 40, " .....	23.00



## German Silver Resistance Wire.

WOUND WITH COTTON OR SILK—COVERING FIRMLY ADHERING TO THE  
WIRE—AMERICAN OR BROWN & SHARPE GAUGE.

## Cotton Covered.

List Price  
Single.List Price  
Double.

No. 16, per pound	List Price Single.	No. 16, per pound	List Price Double.
" 17, "	1.40	" 17, "	1.70
" 18, "	1.40	" 18, "	1.70
" 19, "	1.40	" 19, "	1.70
" 20, "	1.42	" 20, "	1.74
" 21, "	1.44	" 21, "	1.75
" 22, "	1.52	" 22, "	1.83
" 23, "	1.62	" 23, "	1.98
" 24, "	1.71	" 24, "	2.09
" 25, "	1.84	" 25, "	2.26
" 26, "	2.05	" 26, "	2.48
" 27, "	2.25	" 27, "	2.73
" 28, "	2.45	" 28, "	2.98
" 29, "	2.60	" 29, "	3.13
" 30, "	2.84	" 30, "	3.38
" 31, "	3.09	" 31, "	3.66
" 32, "	3.59	" 32, "	4.21
" 33, "	3.96	" 33, "	4.64
" 34, "	4.61	" 34, "	5.44
" 35, "	5.01	" 35, "	5.69
" 36, "	8.09	" 36, "	8.88
" 37, "	13.00	" 37, "	13.75
" 38, "	24.00	" 38, "	27.00
" 39, "	27.00	" 39, "	30.00
" 40, "	30.00	" 40, "	33.00

## Silk Covered.



No. 16, per pound	No. 16, per pound
" 17, "	2.38
" 18, "	2.38
" 19, "	2.38
" 20, "	2.43
" 21, "	2.48
" 22, "	2.64
" 23, "	2.87
" 24, "	3.08
" 25, "	3.48
" 26, "	3.93
" 27, "	4.20
" 28, "	4.43
" 29, "	5.00
" 30, "	5.33
" 31, "	5.81
" 32, "	6.23
" 33, "	6.89
" 34, "	7.29
" 35, "	9.45
" 36, "	11.75
" 37, "	22.00
" 38, "	33.00
" 39, "	40.00
" 40, "	50.00

## Weatherproof Wire—Triple Braid.

SPECIAL PRICES QUOTED ON APPLICATION.



Code Word.	List No.	Size, B. & S. Gauge.	Circular Mills.	Weight per 1,000 ft.	Weight per Mile.	Price per lb.
<i>Notify</i>	6761	....	500000.	1867	9858	.....
<i>Notion</i>	6762	....	450000.	1680	8370	.....
<i>Nimbleness</i>	6763	....	400000.	1493	7383	.....
<i>Nimble</i>	6764	....	350000.	1307	6901	.....
<i>Nimbus</i>	6765	....	300000.	1120	5914	.....
<i>Ninefold</i>	6766	....	250000.	993	4926	.....
<i>Ninepins</i>	6768	0000	211600.	739	3902	.....
<i>Ninny</i>	6769	000	167805.	598	3157	.....
<i>Nip</i>	6770	00	133079.2	485	2561	.....
<i>Nippers</i>	6771	0	105584.0	395	2086	.....
<i>Nitid</i>	6772	1	83694.0	313	1653	.....
<i>Niter</i>	6773	2	66373.0	251	1325	.....
<i>Nitrate</i>	6774	3	52633.4	205	1082	.....
<i>Nitric</i>	6775	4	41742.5	163	887	.....
<i>Nitrogen</i>	6776	5	33102.3	139	734	.....
<i>Nitrous</i>	6777	6	26250.5	113	597	.....
<i>Nobility</i>	6778	8	16509.0	74	391	.....
<i>Noble</i>	6779	10	10381.0	51	269	.....
<i>Nobleman</i>	6780	12	6529.9	37	170	.....
<i>Nobleness</i>	6781	14	4107.	23	118	.....
<i>Noblesse</i>	6782	16	2583.	16	81	.....
<i>Nobly</i>	6783	18	1624.	12	58	.....

## Weatherproof Wire—Triple Braid.

SPECIAL PRICES QUOTED ON APPLICATION.

## Hard Drawn Copper.

<i>Hawnted</i>	8749	No. 8, B. & S., per mile.....	.....
<i>Hawnting</i>	8750	" 9, " " .....	.....
<i>Havoc</i>	8751	" 10, " " .....	.....
<i>Hawk</i>	8752	" 12, " " .....	.....
<i>Hawking</i>	8753	" 14, " " .....	.....

## Triple Braid Weatherproof Iron Wire.

SPECIAL PRICES QUOTED ON APPLICATION.

<i>Hazard</i>	9073	No. 8, B. W. G., per mile.....	.....
<i>Hazarded</i>	9074	" 9, " " .....	.....
<i>Hazarding</i>	9075	" 10, " " .....	.....
<i>Hazardous</i>	9076	" 11, " " .....	.....
<i>Helen</i>	9077	" 12, " " .....	.....
<i>Henry</i>	9078	" 14, " " .....	.....

## Underwriters' Wire.

SPECIAL PRICES QUOTED ON APPLICATION.



Code Word.	List No.	Nos. B. & S. Gauge.	APPROXIMATE WEIGHT INSULATED.		Price per lb.
			Per 1,000 ft	Per Mile.	
<i>Tabber</i>	1600	0000	670	3538	.....
<i>Tabberer</i>	1601	000	555	2930	.....
<i>Tabbering</i>	1602	00	440	2323	.....
<i>Tacamar</i>	1603	0	356	1880	.....
<i>Jackul</i>	1604	1	284	1500	.....
<i>Jackanapes</i>	1605	2	235	1240	.....
<i>Jackass</i>	1606	3	190	1003	.....
<i>Jackblock</i>	1607	4	153	834	.....
<i>Jackdaw</i>	1608	5	127	670	.....
<i>Jacob</i>	1609	6	102	538	.....
<i>Jacobi</i>	1610	7	85	449	.....
<i>Jacobine</i>	1611	8	69	364	.....
<i>Jacobinize</i>	1613	10	47	252	.....
<i>Jacobus</i>	1615	12	31	163	.....
<i>Jade</i>	1617	14	20	105	.....
<i>Jading</i>	1619	16	15	79	.....
<i>Jagged</i>	1621	18	..	....	.....

## Fire and Weatherproof Wire.

SPECIAL PRICES QUOTED ON APPLICATION.

## Triple Braid.



<i>Japanner</i>	1624	0000	753	3977	.....
<i>Jarble</i>	1625	000	594	3136	.....
<i>Jargyle</i>	1626	00	500	2640	.....
<i>Jargon</i>	1627	0	373	1980	.....
<i>Jasmin</i>	1628	1	304	1605	.....
<i>Jasper</i>	1629	2	250	1320	.....
<i>Jaspoid</i>	1630	3	210	1108	.....
<i>Jaundice</i>	1631	4	169	892	.....
<i>Javel</i>	1632	5	135	712	.....
<i>Javelin</i>	1633	6	110	580	.....
<i>Jawbone</i>	1634	7	93	491	.....
<i>Jay</i>	1635	8	80	422	.....
<i>Jaguar</i>	1637	10	55	290	.....
<i>Jambee</i>	1639	12	38	200	.....
<i>Jane</i>	1641	14	26	137	.....
<i>Jangle</i>	1643	16	20	106	.....
<i>Jangling</i>	1645	18	..	....	.....

## Flexible Incandescent Lamp Cord.

## Taped.



## Silk Covered.

Code Word.	List No.	Gauge.	Conductor.	Price per Yard.
<i>Cannibal</i>	3956	No. 22, B. & S.	10x30 Wires.	\$ .12
<i>Cannon</i>	3957	" 20, "	14x30 "	.12
<i>Cannondale</i>	3958	" 18, "	16x30 "	.16
<i>Canny</i>	3959	" 16, "	25x30 "	.19
<i>Canoe</i>	3960	" 14, "	40x30 "	.29
<i>Canonical</i>	3961	" 12, "	60x30 "	.40
<i>Canonize</i>	3962	" 10, "	118x30 "	.50

## Cotton or Worsted.

		Gauge.	Conductor.	
<i>Canopy</i>	3963	No. 22, B. & S.	10x30 Wires	.07
<i>Cantata</i>	3964	" 20, "	14x30 "	.07
<i>Cantation</i>	3965	" 18, "	16x30 "	.09
<i>Canteen</i>	3966	" 16, "	25x30 "	.12
<i>Canter</i>	3967	" 14, "	40x30 "	.21
<i>Canterbury</i>	3968	" 12, "	60x30 "	.32
<i>Cantering</i>	3969	" 10, "	118x30 "	.42

Unless otherwise specified, we furnish on orders green and gold.

## Galvanized Steel Wire Strand.



		7 Wires.	Diam.	Weight per 100 Feet.	Breaking Strength.	Per 100 ft.
<i>Aboriginal</i>	3052	8	1/2 in.	52 lbs.	8,320 lbs.	2.40
<i>Aborigines</i>	3053	9	11/16 "	42 "	6,720 "	2.05
<i>Aborsement</i>	3054	10	7/8 "	36 "	6,720 "	1.80
<i>Coupe</i>	3055	11	3/4 "	29 "	4,640 "	1.50
<i>Coupling</i>	3056	12	5/8 "	21 "	3,360 "	1.15
<i>Coupon</i>	3057	13	5/8 "	16 "	2,560 "	.90
<i>Abound</i>	3058	14	1 1/8 "	12 "	1,920 "	.70
<i>Abounding</i>	3059	15	1 1/4 "	10 "	1,600 "	.60
<i>Above</i>	3060	16	7/8 "	8 "	1,280 "	.55
<i>Abraze</i>	3061	17	3/4 "	6 3/4 "	960 "	.42
<i>Abraham</i>	3092	18	1 1/8 "	4 3/4 "	688 "	.38
<i>Abrasion</i>	3063	19	5/8 "	3 3/4 "	528 "	.35
<i>Abreast</i>	3093	20	1/2 "	2 3/4 "	384 "	.30
<i>Abridge</i>	3065	21	3/2 "	2 "	320 "	.28

## Galvanized Arc Lamp Cord.

## With Hemp Center.

				Per ft.
<i>Samminifrons</i>	25075	No.	3/16 inch.	.03 1/2
<i>Knock</i>	19760	No. 26,	1/4 inch.	.02 1/2
<i>Knocked</i>	19761	" 27,	5/8 "	.02 1/2
<i>Knocker</i>	19762	" 27 1/2,	7/8 "	.01 1/2
<i>Knocking</i>	19763	" 28,	1/2 "	.01 1/2
<i>Knoll</i>	19764	" 29,	1/8 "	.01

## Samson Cordage.

			Per lb.
<i>Larcinating</i>	2690	Cotton, 3/8 inch diameter.	.75
<i>Lordliness</i>	2696	" 3/8 "	.75
<i>Lordly</i>	2697	Linen 5/8 "	1.20
<i>Lordship</i>	2698	" 3/8 "	1.20

## Electric Light Elevator Cable.

			Per ft.
<i>Clarify</i>	2097	Flexible, two conductors, No. 10.	.30





## Flexible Incandescent Lamp Cord.

## Vulcanite.

Code Word.	List No.	Silk Covered.		List Price. Per Yard.
		Gauge.	Conductor.	
<i>Solitude</i>	25025	No. 22, B. & S.	10 x 30 Wires.	\$0.12
<i>Sollar</i>	25026	" 20, "	14 x 30 "	.12
<i>Solo</i>	25027	" 18, "	16 x 30 "	.16
<i>Solstice</i>	25028	" 16, "	25 x 30 "	.19
<i>Solstitial</i>	25029	" 14, "	40 x 30 "	.29
<i>Solubility</i>	25030	" 12, "	60 x 30 "	.40
<i>Soluble</i>	25031	" 10, "	118 x 30 "	.50

## Cotton or Worsted.

Code Word.	List No.	Cotton or Worsted.		List Price. Per Yard.
		Gauge.	Conductor.	
<i>Solubleness</i>	25032	No. 22, B. & S.	10 x 30 Wires.	.07
<i>Sobus</i>	25033	" 20, "	14 x 30 "	.07
<i>Solute</i>	25034	" 18, "	16 x 30 "	.09
<i>Solution</i>	25035	" 16, "	25 x 30 "	.12
<i>Solstice</i>	25036	" 14, "	40 x 30 "	.21
<i>Solubility</i>	25037	" 12, "	60 x 30 "	.32
<i>Soluble</i>	25038	" 10, "	118 x 30 "	.42

Unless otherwise specified, we furnish on orders green and gold.

## Moulded.

Code Word.	List No.	Silk Covered.		List Price. Per Yard.
		Gauge.	Conductor.	
<i>Solableness</i>	25039	No. 22, B. & S.	10 x 30 Wires.	.12
<i>Solce</i>	25040	" 20, "	14 x 30 "	.12
<i>Solvency</i>	25041	" 18, "	16 x 30 "	.16
<i>Soleent</i>	25042	" 16, "	25 x 30 "	.19
<i>Solce</i>	25043	" 14, "	40 x 30 "	.29
<i>Solative</i>	25044	" 12, "	60 x 30 "	.40
<i>Somactical</i>	25045	" 10, "	118 x 30 "	.50

## Cotton or Worsted.

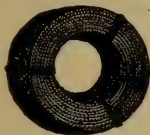
Code Word.	List No.	Cotton or Worsted.		List Price. Per Yard.
		Gauge.	Conductor.	
<i>Somatics</i>	25046	No. 22, B. & S.	10 x 30 Wires.	.07
<i>Somatist</i>	25047	" 20, "	14 x 30 "	.07
<i>Somatology</i>	25048	" 18, "	16 x 30 "	.09
<i>Somatotomy</i>	25049	" 16, "	25 x 30 "	.12
<i>Somber</i>	22050	" 14, "	40 x 30 "	.21
<i>Somberly</i>	25051	" 12, "	60 x 30 "	.32
<i>Somberness</i>	25052	" 10, "	118 x 30 "	.42

Unless otherwise specified, we furnish on orders green and gold.

## Cotton Sleaving.

Code Word.	List No.	Cotton Sleaving.		Price Per 100 Yards.
		Gauge.	Conductor.	
<i>Sombrero</i>	25053	No. 1, for No. 16 B. & S. Bare Copper Wire		.90
<i>Sombrous</i>	25043	" 2, " 11 "	"	.90
<i>Sombrouslly</i>	26055	" 3, " 5 "	"	1.20
<i>Somedent</i>	25056	" 4, " 4 "	"	1.50
<i>Somechat</i>	25057	" 5, " 3 "	"	2.40
<i>Sommiet</i>	25058	" 6, " 1 "	"	3.00
<i>Somnambula</i>	25059	" 7, " 0 "	"	4.00

### Braided Office Wire.



#### Approximate Weight.

No.	Ft. to lb.	No.	Ft. to lb.
No. 4.....	8	No. 16.....	95
" 6.....	12	" 17.....	120
" 8.....	20	" 18.....	135
" 12.....	40	" 19.....	145
" 13.....	45	" 20.....	155
" 14.....	60		

Code Word.	List No.	List Price.
<i>Pacific</i>	15800 No. 12, per pound.....	\$ .40
<i>Paducah</i>	15801 " 14, " .....	.42
<i>Paige</i>	15802 " 16, " .....	.44
<i>Paisley</i>	15804 " 18, " .....	.46
<i>Pojaro</i>	15805 " 20, " .....	.48

### Weatherproof Office Wire.

<i>Palistine</i>	15810 No. 14, per pound.....	.46
<i>Palisade</i>	15811 " 16, " .....	.48
<i>Palmer</i>	15812 " 18, " .....	.50
<i>Palmyra</i>	15813 " 20, " .....	.52

### Office Cables.

From 10 to 100 conductors, made of any size to No. 20 B. & S. gauge copper wire, covered with cotton, compactly cabled together, and braided in any color or combination of colors.

Paraffine finish, per pound.....	.50
Paint finish, per pound.....	.50

Finer conductors subject to special prices.

### Annunciator Wire.

#### Double-Wound.

#### Approximate Weight.

No.	Ft. to lb.	No.	Ft. to lb.
No. 12.....	45	No. 18.....	160
" 14.....	67	" 19.....	200
" 16.....	103	" 20.....	225

<i>Palo</i>	15820 No. 14, per pound.....	.36
<i>Pana</i>	15821 " 16, " .....	.38
<i>Panana</i>	15822 " 18, " .....	.40
<i>Panora</i>	15823 " 19, " .....	.42
<i>Paola</i>	15824 " 20, " .....	.44
<i>Paradise</i>	15825 " 22, " .....	.46



### Double Conductor Annunciator Wire.

<i>Paragon</i>	15830 No. 16, per pound.....	.42
<i>Parkam</i>	15831 " 18, " .....	.44

### Gas Fixture Wire.

#### For Lighting Gas by Electricity.

White, Yellow or Brown.

<i>Paris</i>	15835 No. 22. Triple cotton covered, per pound.....	.90
<i>Parkdale</i>	15836 " 24. " " " " .....	1.00
<i>Parker</i>	15837 " 24. Five " " " " .....	1.50
<i>Parna</i>	15838 " 26. Triple " " " " .....	1.35
<i>Parnell</i>	15840 No. 22. Triple covered, silk outside, per lb.....	2.00
<i>Parsons</i>	15841 " 24. " " " " .....	2.50
<i>Pasco</i>	15842 " 24. Five " " " " .....	3.00
<i>Passaic</i>	15843 " 26. Triple " " " " .....	2.75

In ordering specify color wanted.

## Lead Covered Wire.

Code wor.l.	List No.	Single Conductor.	List Price.
<i>Patterson</i>	15845	No. 14, B. & S. gauge, per foot.....	.07
<i>Patoka</i>	15846	" 16, " " " .....	.05½
<i>Paton</i>	15847	" 18, " " " .....	.04½

## Double Conductor.

<i>Plattville</i>	15848	No. 14, B. & S. gauge, per foot.....	.14
<i>Pauline</i>	15849	" 16, " " " .....	.11
<i>Pavillion</i>	15850	" 18, " " " .....	.09

## Three Conductor.

<i>Pawnee</i>	15851	No. 14, B. & S. gauge, per foot.....	21
<i>Pawtucket</i>	15852	" 16, " " " .....	16½
<i>Paxton</i>	15853	" 18, " " " .....	13½

## Platinum Wire.

<i>Pagne</i>	15860	No. 12, per inch.....	1.00
<i>Payson</i>	15861	" 14, " .....	.75
<i>Peabody</i>	15862	" 16, " .....	.60
<i>Pike</i>	15863	" 18, " .....	.40
<i>Pilot</i>	15864	" 20, " .....	.30
<i>Pinkard</i>	15865	" 22, " .....	.20
<i>Pine</i>	15866	" 24, " .....	.15
<i>Pioneer</i>	15867	" 26, per foot.....	.85
<i>Piqua</i>	15868	" 28, " .....	.70
<i>Pittsfield</i>	15869	" 30, " .....	.50
<i>Plainfield</i>	15870	" 32, " .....	.35
<i>Plainview</i>	15871	" 34, " .....	.25
<i>Plano</i>	15872	" 36, " .....	.20

## Approximate weight of platinum wire per foot.

No. 12.....	310.7	grains
" 14.....	195.4	"
" 16.....	122.8	"
" 18.....	77.3	"
" 20.....	48.6	"
" 22.....	30.6	"
" 24.....	19.2	"
" 26.....	12.1	"
" 28.....	7.60	"
" 30.....	4.79	"
" 32.....	3.01	"
" 34.....	1.89	"
" 36.....	1.19	"

**Pliable Cord.****Bare Tinsel Cord.**

	Code Word.	List No.		List Price, Per Yard.
	<i>Plover</i>	15875	Gold, small.....	\$ .06
	<i>Plymouth</i>	15876	Gold, large.....	.08

**Covered Tinsel Cord.****Single Conductor.**

<i>Pocahontas</i>	15877	Silk covered, gold, No. 15875 .....	.10
<i>Polk</i>	15878	Worsted " " " " .....	.08
<i>Pomeroy</i>	15879	Linen " " " " .....	.10
<i>Pomona</i>	15880	Worsted " silver.....	.12

**Double Conductor.****For Pear-shaped Push.**

<i>Ponquet</i>	15881	Silk covered, No. 15875.....	.21
<i>Ponca</i>	15882	Worsted " " " .....	.15

**For Floor Push.**

<i>Pontiac</i>	15883	Silk covered, No. 15876.....	.24
<i>Poplar</i>	15884	Worsted " " " .....	.18

**For Loops, Extra Heavy.**

<i>Portage</i>	15885	Silk covered.....	.36
<i>Posey</i>	15886	Linen " .....	.27

**Special.**

<i>Potosi</i>	15887	Several strands of linen thread covered with bare tinsel wire; second covering of spiral iron wire covered with linen.....	.12
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**Copper Conducting Cords.****Single Conductor.**

Composed of 25 wires No. 32, equal to  
No. 18 B. & S. gauge.



<i>Potsdam</i>	15890	Silk covered.....	.12
<i>Powell</i>	15891	Worsted " .....	.10

Composed of 40 wires No. 31, equal to  
No. 16 B. & S. gauge.



<i>Pratt</i>	15892	Silk covered.....	.15
<i>Preble</i>	15893	Worsted " .....	.12

Composed of 40 wires No. 30, equal to  
No. 14 B. & S. gauge.

<i>Prentice</i>	15895	Silk covered .....	.18
<i>Prescott</i>	15896	Worsted " .....	.15

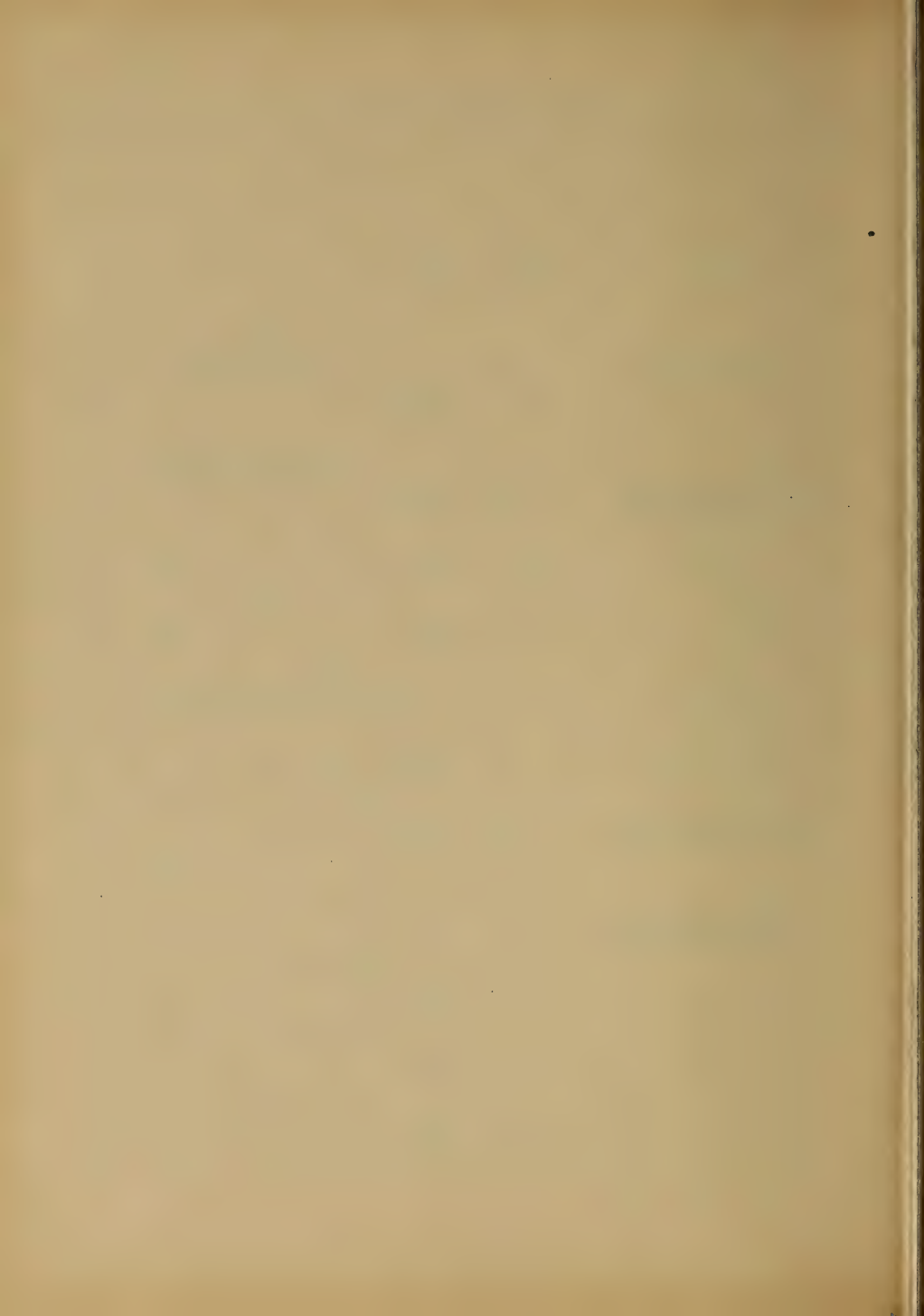
Composed of 51 wires No. 29, equal to  
No. 12 B. & S. gauge.

<i>Pritchards</i>	15894	Silk covered.....	.21
<i>Prospect</i>	15897	Worsted " .....	.18

**Double Conductor.**

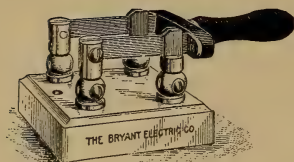
Each conductor same capacity as No. 14.

<i>Pravo</i>	15898	Silk covered.....	.45
<i>Pueblo</i>	15899	Worsted " .....	.36

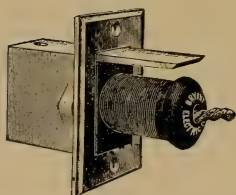




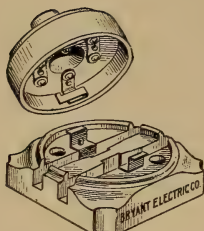
## **Appendix.**



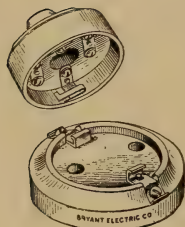
No. 24470.



No. 24476.



No. 24477



No. 24479

## New Bryant Specialties.

### Type "B" Baby Knife Switch.

Code Word.	List No.		List Price. Each.
<i>Virtue</i>	24469	B. E. No. 1102 15 Amp. Porc. Base.....	\$0.35
<i>Vaylet</i>	24470	" 1074 25 " " .....	.40
<i>Visage</i>	24471	" 1103 15 " Unmounted .....	.32
<i>Vastness</i>	24472	" 1075 25 " " .....	.36

### Type "C" Baby Knife Switch.

#### Three Pole. Slate Base.

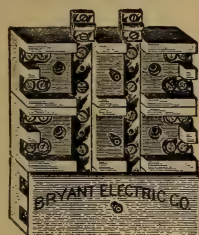
<i>Vulture</i>	24473	B. E. No. 1099 35 Amp., 3 Pole, S. T. ....	1.50
<i>Volary</i>	24474	" 1100 35 " 3 Pole for Fuse. ....	2.25
<i>Virago</i>	24475	" 1101 35 " 3 Pole, D. T. ....	2.25

### Bryant Base Board Receptacle.

<i>Vaunt</i>	24476	B. E. No. 1081 Complete with Plug.....	2.50
		Extra Plugs, each.....	1.50

### B. E. Rosettes.

<i>Volant</i>	24477	B. E. No. 1082 For Cleat Work.....	.20
<i>Volley</i>	24478	" 1083 For Concealed Work. ....	.20
<i>Volition</i>	24479	" 1083 For Moulding Work .....	.20



Porcelain Tablet Board.  
Two Wire.



No. 24487.—Covered.



No. 24487.—Open.



No. 24488

## New Bryant Specialties—(Continued.)

### Bryant Porcelain Tablet Board.

#### Three Wire.

Code Word.	List No.		List Price. Each.
<i>Vitrine</i>	24480	B. E. No. 1092 2 Circuit .....	\$1.50
<i>Vivacity</i>	24481	" 1098 4 " .....	3.00
<i>Vigor</i>	24482	" 1094 6 " .....	4.00
<i>Voiceless</i>	24483	" 1095 8 " .....	5.00
<i>Volcanic</i>	24484	" 1096 10 " .....	6.50
<i>Valuable</i>	24485	" 1097 12 " .....	8.00
<i>Vulgar</i>	24486	" 1098 14 " .....	9.50

Each block or section includes two Circuits.

Two-Wire listed on page 76.

The Three-Wire have three metal pieces in the center.

### No. 1106 Bryant Bug.

#### With Cover.

Impossible to short circuit.

Cover held in place by one nut only.

Fuse in cover—connecting wires in base.

To operate—remove one nut, remove cover, replace fuse in cover, replace cover on base, screw nut in place.

<i>Vineyard</i>	24487	B. E. No. 1106 Bryant Bug.....	.15
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#### Sockets.

<i>Villager</i>	24488	B. E. No. 1104 Type E, W. P. Socket, T.-H. ....	
<i>Vigorous</i>	24489	" 1105 " " " West....	
<i>Solfa</i>	24490	Brush-Swan Key Socket .....	.40
<i>Solfataria</i>	24491	" Keyless Socket.....	.30

### Attachment Plug.

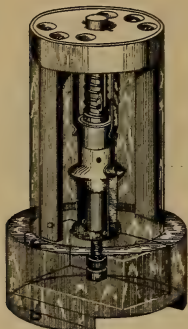
<i>Solfataria</i>	24492	Brush-Swan Attachment Plug, not Fusible.....	.15
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#### Cut-Out.

<i>Solicit</i>	24493	B. E. No. 1107, D. P. 500 Volt, Block Porcelain Cover.....	.25
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No. 25067.



No. 25071.



No. 25073.



Fig. 1.



Fig. 2.



Fig. 4.



Fig. 3.



Fig. 3.

## Imperial Rosettes.

Code Word.	List No.		List Price.
<i>Somnambulator</i>	<b>25067</b>	Two-piece Rosette, per 1,000.....	<b>\$30.00</b>
<i>Somnambulist</i>	<b>25068</b>	Base, only, ".....	<b>15.00</b>
<i>Somnambulist</i>	<b>25069</b>	Cap, ".....	<b>15.00</b>
<i>Somnambulist</i>	<b>25070</b>	Solid Rosette, ".....	<b>30.00</b>

## Door and Closet Switches.

The object of these Switches is to furnish a device that will automatically throw on or off the incandescent lights as desired.

The door switch has one end arranged to take the place of that part of the lock which is fastened in the door jamb and into which the bolt of the lock fits when the door is locked. The bolt of the lock presses upon a projection of the switch which throws off the lights when the bolt is withdrawn from the jamb. By unlocking the door the projection of the switch is released and the lights are turned on.

This same principle is used in the closet switch, excepting that the projection which operates the mechanism of the switch extends about one-fourth inch beyond the flush surface of the switch.

The switch is placed in the jamb of the door to which the hinges of the door are fastened. When the door is closed it depresses the projection so that it becomes flush with the door jamb and this turns off the lights. The opening of the door releases the switch and the and the lamps are turned on.

*Somner*  
*Somnial*

<b>25071</b>	Door Switch, each.....	<b>1.25</b>
<b>25072</b>	Closet Switch, ".....	<b>1.25</b>

## Tile Bolt and Lock.

This Bolt Lock is devised for use in fire-proof buildings where the columns and girders are covered with tiling. It is a safe and simple method for fastening insulators and other electrical appliances to ceilings and columns, also to brick walls. It cannot be pulled out when properly set and yet can be easily removed when desired. Partitions in the tiling, or tile slabs resting against flat surfaces do not interfere with its use, as is the case with toggle bolts.

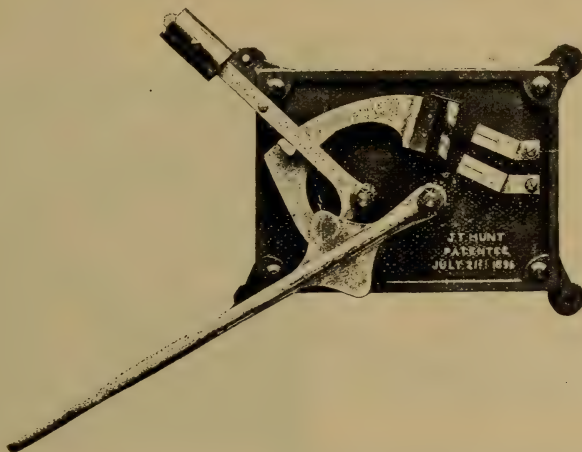
The illustrations, Figs. 1, 2, 3 and 4, show Tile Bolt and Lock and parts.

<i>Somnative</i>	<b>25073</b>	$3\frac{1}{2} \times \frac{1}{4}$ in. Bolts, per 1,000.....	<b>40.00</b>
<i>Somnicalous</i>	<b>25074</b>	$2 \times \frac{1}{2}$ " " ".....	<b>45.00</b>

Write for prices.

## Automatic Switches for Electric Motors.

Specially Adapted for Operating Electric Pumps.



The above cut represents switch for automatically starting and stopping electric motors (Series wound).

This Switch is for motors not exceeding half horse power.

Mounted on plain slate base in iron frame, with unfinished metal parts.....	\$12.00
Mounted on marbleized slate with japanned iron frame, all metal parts highly polished	15.00
Tinned copper ball float with 2 pulleys, 10 feet brass chain, weight and adjusting balls complete for the above .....	3.50

## Separate Parts.

Tinned Copper Ball Float.....	1.50
Brass Chain, per foot .....	.10
Japanned Iron Pulleys, each.....	.25
Brass Box with Adjustable Weights .....	.75
Adjusting Balls, each. ....	.10

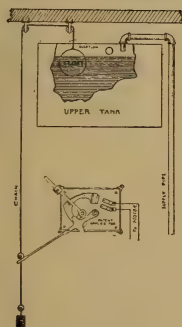


Fig. F

Fig. F represents Automatic Switch in position after cutting off current and stopping motor, the water in tank having reached the desired level. As the water is lowered the float in sinking raises the weight on chain running through slot in bottom lever of Switch until the lower adjusting ball reaches the lever.

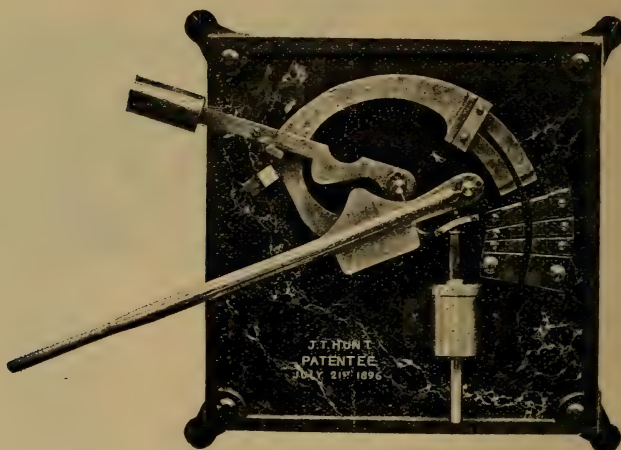
In lifting it gradually raises the top lever until it reaches a vertical position.

The weight on this lever then carries it over by gravity, causing it to strike the cam and make contact and start motor and pump.

Any desired depth of water can be maintained in the tank by altering the distance between the adjusting balls on chain running through the slot of switch lever



## Automatic Switches for Electric Motors—(Continued)



The above cut represents Switch for automatically starting and stopping Electric Motors up to and including 5 H. P. Arranged to allow the current to gradually enter through resistance, preventing undue sparking at commutator at time of starting motor, thus taking the place of a starting box or rheostat as usually operated by hand.

This switch can be readily adjusted so that the time taken to turn on full current can be varied from 5 to 30 seconds.

## Price List.

	Plain	Marbleized Slate with Metal Part highly Polished
1 H. P. ....	\$50.00	\$55.00
2 " ....	58.00	63.00
3 " ....	65.00	70.00
4 " ....	72.00	77.00
5 " ....	80.00	85.00

Tinned copper ball float, 2 pulleys, 10 feet brass chain, weight and adjusting balls, complete. .... 4.50

## Separate Parts.

Tinned Copper Ball Float.....	2.50
Brass Chain, per foot .....	.15
Japanned Iron Pulleys.....	.40
Brass Box, with Adjusting Weights. ....	1.00
Adjusting Balls .....	.10

## American "Universal" Enamel Field Rheostats.



[Front view.]



[Back view.]

The "Universal" rheostat is compact, fire proof, and meets all the requirements of underwriters and municipal inspectors.

The most important feature gained is by having each step of resistance independent, detachable and of small area. Each section of the resistance is made up of a small steel enamelled disc, the resistance being imbedded in the enamel and having copper strip terminals arranged so they are easily connected in series, one disc with another, as shown in the illustration of the back of the plate. Each disc has a hole in its centre which coincides with one on the plate when mounted, through which a flat headed bolt is passed from the front of the plate under the nut of which, when screwed in place, the terminals are clamped, the flat head making the contact point on the front to engage the usual movable arm.

As every step of the "Universal" is removable it is obvious that within certain limits numerous combinations of resistance sections may be made on any one plate. It is only necessary for us to define the limits of each size of plates, leaving you to indicate just what you want, instead of submitting an arbitrary list to which you must conform. To fill orders promptly we have a quantity of a few sizes of plates ready for the resistance and a complete stock of the resistance required, and assemble them to order. When we know what you want and it is within the limits of our lists we can ship on demand.

For convenience in ordering, the following tables define the limits of each different plate at the voltage mentioned and also give the list price for each size.

All are made for mounting on front or back of board, as ordered, and the same template for drilling the board answers for all sizes referred to in this catalogue, thereby avoiding the chance of having holes drilled wrong, due to any mistake in ordering.

### For 550 Volts. Single Plates.

Maximum Ampere Capacity with only One Section of Resistance in Circuit.	Maximum Ohms in Rheostat.	Minimum Ohms in Field. on 550 Volts, required to keep Amperes within limit stated in column 1.	
1.	600	540	
1.25	574	432	Diameter of Plate..... 15 inches
1.5	528	384	No. of steps..... 60
1.75	400	310	Price Front of Board..... \$28.00
2.	315	272	Price Back of Board..... 37.00
2.25	229	241	

### Double Plates

2.5	287	216	
3.	264	192	Diameter of Plate..... 15 inches
3.5	200	155	No. of Steps..... 60
4.	158	136	Price Front of Board..... \$50.00
4.5	115	121	Price Back of Board..... 60.00

**In Ordering,** state the maximum voltage at the dynamo, and the resistance of the shunt field circuit; or, the maximum voltage, and the maximum number of amperes required for the field circuit.

## American "Universal" Enamel Field Rheostats.

For 125 Volts. Single Plates.

Maximum Ampere Capacity with only One Section of Resistance in Circuit.	Maximum Ohms in Rheostat	Minimum Ohms in Field on 125 Volts. required to keep Amperes within limit stated in column 1.	
1.	250	115	Diameter of Plate.....9 inches No. of Steps.....25 Price Front of Board.....\$15.00 Price Back of Board.....26.00
1.25	244	92	
1.5	231	77	
1.75	206	67	
2.	184	59	
2.25	160	53	
2.5	134	48	
2.75	101	43	
3.	79	40	
3.5	47.6	34	
4.	32.7	30.4	
1.	310	115	Diameter of Plate.....10½ inches No. of Steps.....31 Price Front of Board.....\$18.00 Price Back of Board.....27.00
1.5	291	77	
2.	244	59	
2.5	195	48	
3.	140	40	
3.5	95	34	
4.	70	30.4	
4.5	44.7	27.2	
5.	28.5	24.5	
1.	450	115	Diameter of Plate.....12 inches No. of steps.....45 Price Front of Board.....\$22.00 Price Back of Board.....31.00
2.	384	59	
3.	273	40	
4.	162	30.4	
5.	56	24.5	
6.	26.5	19.7	
7.	20.2	17.5	
1.	600	115	Diameter of Plate.....15 inches No. of steps.....60 Price Front of Board.....\$28.00 Price Back of Board.....37.00
3.	423	40	
5.	182	24.5	
7.	38.8	17.5	
8.	24.5	15.6	
9.	17.3	14	
10.	14.5	12.4	
10.5	11.4	11.5	

### Double Plates.

12.5	13.3	9.8	Diameter of Plate.....12 inches No. of Steps.....45 Price Front of Board.....\$40.00 Price Back of Board.....49.00
14	10.1	8.7	
12.5	35	9.8	Diameter of Plate... 15 inches No. of Steps .....60 Price Front of Board.....\$50.00 Price Back of Board.....60.00
14	19.4	8.7	
16.	12.3	7.7	
18.	8.7	6.9	
20.	7.3	6.1	
21.	5.7	5.7	

**In Ordering,** state the maximum voltage at the dynamo, and the resistance of the shunt field circuit; or, the maximum voltage, and the maximum number of amperes required for the field circuit.

## American "Universal" Enamel Field Rheostats.

For 250 Volts. Single Plates.

Maximum Ampere Capacity with only One Section of Resistance in Circuit.	Maximum Ohms in Rheostat.	Minimum Ohms in Field on 250 Volts, required to keep Amperes within limit stated in column 1.	
1.	250	240	
1.25	195	192	
1.5	178	167	Diameter of Plate.....9 inches
1.75	161	139	No. of Steps.....25
2.	136	122	Price Front of Board.....\$15.00
2.25	102	108	Price Back of Board.....26.00
1.	310	240	
1.5	238	167	Diameter of Plate...10½ inches
2.	186	122	No. of Steps.....31
2.5	114	98	Price Front of Board.....\$18.00
			Price Back of Board.....27.00
1.	450	240	
2.	317	122	Diameter of Plate.....12 inches
3.	145	82	No. of steps.....45
4.	59	61	Price Front of Board.....\$22.00
			Price Back of Board.....31.00
1.	600	240	
2.	467	122	Diameter of Plate.....15 inches
3.	238	82	No. of steps.....60
4.	99	61	Price Front of Board.....\$28.00
5.	48	49	Price Back of Board.....37.00

### Double Plates.

6	73.	41	Diameter of Plate.....12 inches
8	29.5	30.5	No. of Steps.....45
			Price Front of Board.....\$40.00
			Price Back of Board.....49.00
6.	119	41.	Diameter of Plate.....15 inches
8.	49.2	30.5	No. of Steps.....60
10.	24.	24.5	Price Front of Board.....\$50.00
			Price Back of Board.....60.00

**In Ordering,** state the maximum voltage at the dynamo, and the resistance of the shunt field circuit; or, the maximum voltage, and the maximum number of amperes required for the field circuit.

## Western Electric Non-Sparking Brushes.



Western Electric Non-Sparking Brushes are made under Patent No. 419,660, and are specially adapted for use on dynamos where metal brushes are ordinarily used.

The brushes are constructed with high resistance metal placed upon both sides of a low resistance, the object being to prevent sparking at the edges of the brushes when leaving the segments.

The principle on which these brushes work is shown in the cut. The armature coils are represented diagrammatically at *c c c*, and the brush is shown just before it leaves one of the commutator segments. It will be seen from an inspection of the cut that the current traveling up on either side of the armature, and passing into the brush from the segments *a* and *d*, has to pass through the high resistance metal of the brush, while the current can pass through the coils *c'* and *c''* into the segment *b*, and from there into the low resistance metal of the brush. Of course, under these conditions, the main body of the current goes through the low resistance metal, and as the segment *a* approaches nearer and nearer the tip of the brush the resistance still further increases and the amount of current flowing from segment *a* into the brush is gradually diminished until just as the brush leaves the segment there is very little, if any, current to be interrupted, and consequently little or no sparking.

This action takes place whether the brush is in its proper position for the load it is carrying or not, the action in the latter case being to reduce the amount of current which has to be broken when the segment leaves the tip of the brush, and consequently when sparking does occur it is not as violent as if the ordinary low resistance brush was used.

An insulating medium is placed between the high resistance metal and the stiffening springs on the outside of the brushes which prevents the current from reaching the brush holder without first passing through the entire length of the brush.

These brushes are made of selected material of the best quality and in the most careful manner possible.

The outside strips of stiffened metal should never be allowed to touch the commutator. If this happens the high resistance metal is short-circuited and rendered useless.

When the brushes become worn down use a file or hack saw to cut away about an inch of the metal of the stiffening springs.

If brushes tend to spread at the toe, the stiffening springs may be bowed at the brush holder to hold the toe more tightly together. Tension may be light if commutator is true and smooth. Some lubrication is needed—oil is generally used, but in some cases something heavier is to be preferred, such as vaseline or tallow. There are very few commutators that do not need the occasional application of sandpaper if for no other reason than to keep the mica down to the level of the copper. A rub in time saves a trip to the repair shop.

Next to a smooth commutator, the most important condition for sparkless running of dynamo brushes is the amount of "lap," or length of bearing of the brush. The lap is determined by the thickness and the bevel of the "business end" of the brush. Except where otherwise specified Western Electric Brushes are made with a bevel of forty-five degrees. This repre-

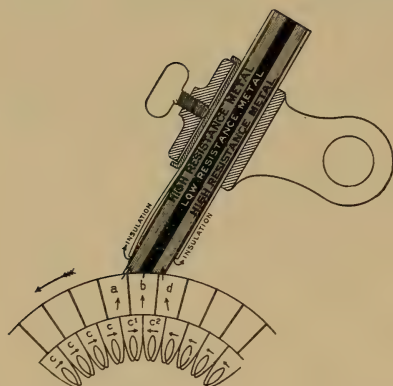


Diagram.



Showing Bow of Stiffening Spring.



## Western Electric Non-Sparking Brushes.

(Continued.)

sents the common practice. Siemens & Halske brushes are beveled to twenty-nine degrees. It is not uncommon to find dynamos which have been running for years with totally wrong lap on the brushes. No rule can be laid down, but in most cases a little observation will show what is best for a particular dynamo, and after this has been determined the correct bevel should be maintained by trimming brushes when necessary. In some cases trimming can be saved in part by carefully shoving forward one brush at a time, allowing the natural wear to restore the original bevel.

## Regular Stock Sizes of Western Electric Brushes.

See Special List for other Sizes.

Style.	Width.	Thickness.	Length.	Price.
A	$\frac{1}{4}$	$\frac{5}{16}$	8	\$ .90
M	$\frac{1}{4}$	$\frac{11}{16}$	8	1.05
R	$\frac{1}{4}$	$\frac{11}{16}$	8	1.15
B	$\frac{1}{4}$	$\frac{11}{16}$	8	1.25
N	$\frac{1}{4}$	$\frac{11}{16}$	8	1.45
F	$\frac{1}{4}$	$\frac{11}{16}$	8	1.15
I	$\frac{1}{4}$	$\frac{11}{16}$	8	1.40
O	$\frac{1}{4}$	$\frac{11}{16}$	8	1.65
D	$\frac{1}{4}$	$\frac{11}{16}$	10	2.00
J	$\frac{1}{4}$	$\frac{11}{16}$	10	2.60
P	$\frac{1}{4}$	$\frac{11}{16}$	8	1.55
Q	$\frac{1}{4}$	$\frac{11}{16}$	8	1.70
L	$\frac{1}{4}$	$\frac{11}{16}$	10	2.05
C	$\frac{1}{4}$	$\frac{11}{16}$	10	2.45
K	$\frac{1}{4}$	$\frac{11}{16}$	10	3.25
G	$\frac{1}{4}$	$\frac{11}{16}$	10	2.85
E	$\frac{1}{4}$	$\frac{11}{16}$	12	4.60

## Price List of Western Electric Brushes.

Thickness in Inches.	Length in Inches.	WIDTH IN INCHES.											
		$\frac{3}{8}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{3}{4}$	2
$\frac{3}{16}$	8	\$0.55	\$0.60	\$0.55	\$0.70	\$0.75	\$0.80	\$0.85	\$0.90	\$0.95	\$1.00	\$1.05	\$1.15
	10	.65	.70	.75	.80	.85	.90	1.00	1.05	1.10	1.15	1.25	1.35
	12	.70	.75	.80	.90	.95	1.05	1.10	1.20	1.25	1.30	1.40	1.50
$\frac{1}{4}$	8	.75	.80	.90	.95	1.00	1.10	1.15	1.20	1.25	1.30	1.40	1.50
	10	.80	.90	.95	1.05	1.15	1.20	1.30	1.35	1.45	1.50	1.60	1.75
	12	.85	.95	1.05	1.15	1.25	1.35	1.45	1.50	1.65	1.70	1.80	2.00
$\frac{5}{16}$	8	.90	1.00	1.05	1.15	1.25	1.35	1.40	1.45	1.55	1.60	1.70	1.85
	10	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.85	1.95	2.05
	12	1.05	1.20	1.30	1.40	1.50	1.65	1.75	1.90	2.00	2.15	2.25	2.50
$\frac{3}{8}$	8	1.10	1.15	1.25	1.35	1.45	1.55	1.65	1.75	1.80	1.90	2.00	2.10
	10	1.15	1.30	1.40	1.50	1.65	1.75	1.85	2.00	2.10	2.20	2.35	2.45
	12	1.20	1.40	1.55	1.70	1.85	1.95	2.10	2.25	2.40	2.50	2.65	2.80
$\frac{7}{16}$	8	1.25	1.35	1.45	1.55	1.70	1.80	1.90	2.00	2.10	2.20	2.35	2.55
	10	1.35	1.50	1.60	1.75	1.90	2.05	2.15	2.30	2.45	2.60	2.70	2.85
	12	1.45	1.60	1.80	1.95	2.10	2.30	2.45	2.60	2.75	2.90	3.10	3.25
$\frac{1}{2}$	8	1.40	1.50	1.65	1.80	1.90	2.00	2.15	2.30	2.40	2.50	2.65	2.80
	10	1.60	1.70	1.85	2.00	2.15	2.30	2.45	2.60	2.80	2.95	3.10	3.25
	12	1.65	1.85	2.00	2.20	2.40	2.60	2.80	2.95	3.15	3.35	3.50	3.70
$\frac{5}{8}$	8	1.70	1.90	2.05	2.20	2.35	2.50	2.65	2.80	3.00	3.15	3.30	3.45
	10	1.90	2.05	2.25	2.45	2.65	2.85	3.05	3.25	3.45	3.65	3.85	4.05
	12	2.05	2.25	2.50	2.75	3.00	3.20	3.45	3.70	3.90	4.15	4.40	4.60

Thickness is given for the middle of the Brush.

For price of 6 inch Brush, subtract from 8 inch, difference between 8 and 10 inch.

 $\frac{3}{16}$  inch price will be charged for any size under that thickness.

## Brush Copper.

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 REGULAR SIZES IN STOCK. SPECIAL SIZES MADE UPON SHORT NOTICE.
 

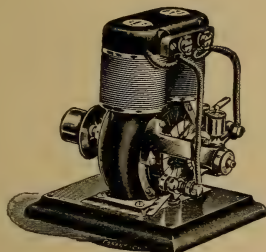
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Nos. B. & S. Gauge.	$\frac{1}{4}$ in. and Narrower	Over $\frac{1}{4}$ in. to 1 in.	Over 1 in. to $1\frac{1}{4}$ in.	Over $1\frac{1}{4}$ in. to 2 in.	Over 2 in. to $2\frac{1}{4}$ in.	Over $2\frac{1}{4}$ in.
23	\$0.37 $\frac{1}{2}$	\$0.37	\$0.36 $\frac{1}{2}$	\$0.36 $\frac{1}{2}$	\$0.36 $\frac{1}{2}$	\$0.36
24	.37 $\frac{1}{2}$	.37	.36 $\frac{1}{2}$	.36 $\frac{1}{2}$	.36 $\frac{1}{2}$	.36
25	.38 $\frac{1}{2}$	.38	.37 $\frac{1}{2}$	.37 $\frac{1}{2}$	.37 $\frac{1}{2}$	.37
26	.38 $\frac{1}{2}$	.38	.37 $\frac{1}{2}$	.37 $\frac{1}{2}$	.37 $\frac{1}{2}$	.37
27	.40	.39 $\frac{1}{2}$	.39	.39	.39	.38
28	.40	.39 $\frac{1}{2}$	.39	.39	.39	.38
29	.41	.40 $\frac{1}{2}$	.40	.40	.40	.39
30	.41	.40 $\frac{1}{2}$	.40	.40	.40	.39
31	.43	.42	.41 $\frac{1}{2}$	.41 $\frac{1}{2}$	.41 $\frac{1}{2}$	.40
32	.43 $\frac{1}{2}$	.42 $\frac{1}{2}$	.41 $\frac{1}{2}$	.41 $\frac{1}{2}$	.41 $\frac{1}{2}$	.40
33	.44 $\frac{1}{2}$	.43 $\frac{1}{2}$	.42 $\frac{1}{2}$	.42 $\frac{1}{2}$	.42 $\frac{1}{2}$	.41
34	.44 $\frac{1}{2}$	.43 $\frac{1}{2}$	.42 $\frac{1}{2}$	.42 $\frac{1}{2}$	.42 $\frac{1}{2}$	.41
35	.46	.45	.44	.44	.44	.42
36	.47	.46	.45	.45	.45	.43
37	.50	.49	.46	.45 $\frac{1}{2}$	.45	.43
38	.53	.49 $\frac{1}{2}$	.48	.47 $\frac{1}{2}$	.47	.44
39	.56	.51	.49 $\frac{1}{2}$	.48	.47	.44
40	.60	.53	.50	.49	.48	.45

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## Plating Dynamos.

## Price List.



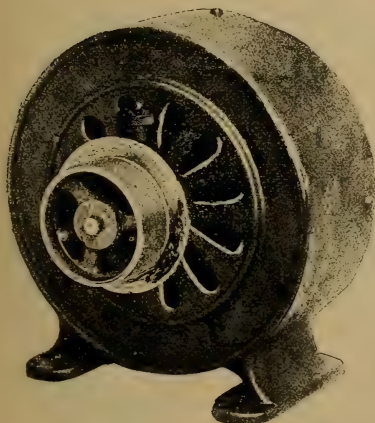
No. 1 Plating Dynamo.

	Silver per hour	Nickel.	H. P. required at full load.	Pulley	Speed, Approximate.	List Price.
No. 1	2 oz.	36 gal.	$\frac{1}{8}$	1½ x 1½ in.	2,500	\$ 40.00
No. 2	3 "	50 "	$\frac{1}{4}$	2 x 1½ "	2,200	50.00
No. 3	6 "	100 "	$\frac{1}{2}$	2 x 1½ "	2,000	95.00
No. 4	12 "	200 "	$\frac{3}{4}$	3 x 2 "	1,750	140.00
No. 5	25 "	400 "	1	4 x 2 "	1,900	190.00
No. 6	53 "	825 "	2	5 x 3 "	1,750	250.00
No. 7	110 "	1,700 "	4	7 x 4 "	1,600	390.00
No. 8	160 "	3,600 "	5	8 x 5 "	1,400	425.00

With No. 6 and larger sizes are sent sub-base, sliding rails and belt-tightening gear.

Rheostat included in above prices.

## Alternating Current Power Motor.



Alternating Current Power Motor.

This Motor is non-synchronous, and runs at a practically constant speed under any change of load up to its full capacity.

The armature and field are finely laminated. The winding on the armature consists of copper bars, which are inserted in holes near the periphery, and are connected at the ends by massive copper rings, thus furnishing a closed circuit winding of great capacity. The current in these conductors is produced by induction, hence no collector, commutator, nor connection with the outside circuit is needed. The winding of the fields and the arrangement of the iron in the pole pieces produces a starting torque equal to one-half that of the machine under full load.

In starting the motor the button on the back of the motor is pushed in for a few seconds until the armature comes up to speed, when it is released. The motor requires no further attention while running.

## List Price.

½ H. P., 52 to 104 volts, with grooved or flat pulley.....	\$40.00
½ H. P., 52 to 104 volts, with grooved or flat pulley.....	60.00

These motors are built for 52 or 104 volts, high or low frequency. In ordering be particular to state voltage and number of periods or cycles per second. Low frequency machines are only made to order.

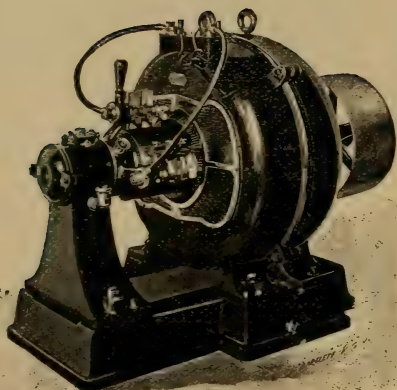
## Lundell Motors and Dynamos.

### Data and Prices.

Guaranteed Brake H P	Watts.	Amperes at 115 Volts.	Voltage	Approximate Speed	PULLEY		List
					Diam	Face.	
$\frac{1}{8}$	.....	.....	4 Battery	1300	1	V	\$ 28 00
$\frac{1}{4}$	.....	.....	115	1050	1	V	28 00
$\frac{3}{4}$	.....	.....	8 Battery	1200	1 $\frac{1}{2}$	V	32 00
$1\frac{1}{2}$	.....	.....	115	1200	1 $\frac{1}{2}$	V	40 00
$2\frac{1}{2}$	250	2.2	*115, 230, 500	1640	2 $\frac{1}{2}$	1 $\frac{1}{2}$	90 00
$4\frac{1}{2}$	500	4.3	*115, 230, 500	1485	3 $\frac{1}{2}$	2	130 00
1	1000	8.7	*115, 230, 500	1225	4 $\frac{1}{2}$	2 $\frac{1}{2}$	160 00
2	1920	16.7	115, 230, 500	1040	6	3 $\frac{3}{8}$	250 00
3	2750	23.9	115, 230, 500	1480	6	3 $\frac{3}{8}$	350 00
4	3675	32	115, 230, 500	1150	7	3 $\frac{3}{8}$	425 00
** 5	4525	39.4	115, 230, 500	1073	8	4 $\frac{1}{2}$	473 00
** 7 $\frac{1}{2}$	6650	57.8	115, 230, 500	1060	9	5	600 00
**10	8750	76.1	115, 230, 500	878	11	6	700 00
**15	12700	118.7	115, 230, 500	785	13	6 $\frac{1}{2}$	900 00
**20	16700	142.2	115, 230, 500	725	15	7	1100 00
**25	20650	179.5	115, 230, 500	770	17	8	1300 00
**35	28500	248.7	115, 230, 500	750	22	10	1800 00

\*1,  $\frac{1}{2}$  and 1 H. P. motors, wound for 500-volt circuits, \$5.00 net, extra.

\*\*4 Pole Type, all smaller sizes 2-Pole Type.



### NOTICE.

Prices subject to change without notice

Boxing and cartage charged at cost.

Above prices include fire-proof starting boxes.

Adjustable base, for tightening belt when required, will be furnished with 2 H. P size and over without extra charge.

Machines are also wound for slower speeds with proportionately smaller outputs, and for any voltage between 50 and 150 volts.

Regulating Rheostats capable of 50 per cent reduction in speed furnished at a special quotation

## Combined Exhaust Fans and Lundell Motors.

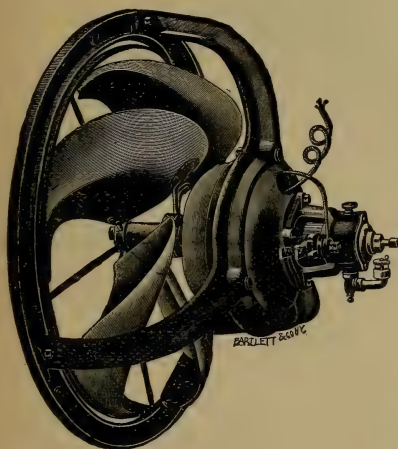
### Direct Connected, Noiseless, Efficient, Variable Speeds.

The design of the Lundell Motor lends itself most readily in application to exhaust fan work. The motor, being iron clad, is almost wholly inclosed and easily permits of connection by radial arms, spider, or bolts to any of the many forms of exhaust fans now to be found in the market.

It has been the practice of manufacturers of exhaust fans to supply a bearing in front as well as in the back of the fan, but in our application we carry a shaft, which may be horizontal or vertical, in two bearings in the motor frame itself, not supporting the shaft in any sense from the fan ring. This course insures perfect alignment and noiseless running.

All exhaust fan outfits are made with horizontal shafts, unless otherwise ordered, and are invariably made so that the direction of the flow of air is from the motor toward the fan. If it is desired to operate the fan with a vertical shaft or to drive the air through the fan and over the motor, it should be specifically stated in the order. With all standard horizontal shaft fans, an adjustable thrust bearing is provided. When the flow of air is desired contrary to the standard direction, a button and thrust bearing is placed at the rear of the motor.

In all horizontal shaft fans, lubrication is effected by oil. In vertical shaft fans, lubrication is effected in an oil receptacle enclosing a step at the bottom of the shaft, and a graphite or other self-lubricating bearing (never a grease cup or oil bearing) at the upper end of the shaft. Particular care should be taken to see that the white line marked upon the motor be in a vertical position when the fan outfit is erected.



Catalogue No.	Size of fan, inches.	Speed	Motor Horse-Power.	Amperes	Voltage.	Price.
990	18	1000	$\frac{1}{2}$	1.5	115	\$220.00
992	24	775	$\frac{3}{4}$	3.	115	300.00
994	30	650	1	5.	115	360.00
996	36	600	2	10.	115	490.00
998	42	550	4	20.	115	650.00
1000	48	500	5	25.	115	750.00
1002	60	400	10	30.	115	1200.00
1004	72	350	15	50.	115	1500.00

We attach our Lundell Motors to any of the standard makes of Ventilating or Exhaust Fans. A list of prices and the charge we make for attaching is given herewith.

Horse-Power.	*Price of Motor and attaching.	Size of Fan, inches.	Price for attaching only.
$\frac{1}{2}$	132.00	18	\$42.00
$\frac{3}{4}$	180.00	24	50.00
1	220.00	30	60.00
2	320.00	36	70.00
4	505.00	42	80.00
5	565.00	48	90.00
10	820.00	60	120.00
15	1100.00	72	200.00



## Combined Exhaust Fans and Lundell Motors— (Continued.)

Motors are wound for 115, 230 and 500-volt circuits.  $\frac{1}{4}$ ,  $\frac{1}{2}$ , and 1 H. P. Motors, wound for 500-volt circuits, \$5.00 net extra.

Purchaser will understand that, for example, a 2-horse-power motor whose standard speed is 1000 revolutions per minute is a 1-horse-power motor at 500 revolutions per minute, or in other words the power a motor exerts is directly proportional to its speed.

The prices on preceding page are for disc fans only. Centrifugal fans, prices on application.

Motors for direct-connected outfits are made special, and are different from the standard power motors, having extra length of shaft, extra heavy bearing next to fan, thrust bearing, etc.

\*Customers to furnish fan and ring or frame.

## Direct Connected Electric Blowers and Exhausters.

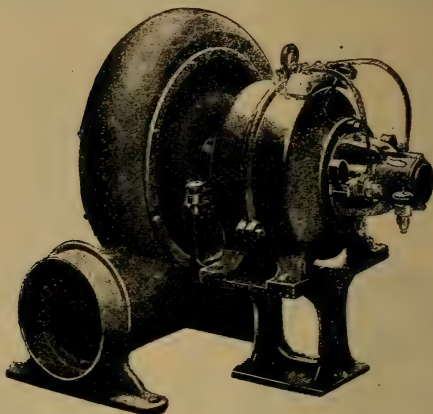
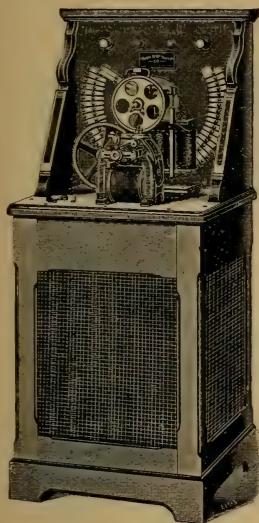


Table for Direct Connected Blowers.

SIZE NUMBERS					Pres- sure Limits	Sizes of Motor: (These Vary According to Pressure of Air Required) Horse-power.
B. F. Sturte- vant & Co. "Monogram."	Buffalo Forge Co. "B" Volume	Boston Blower Co.	American Blower Co. "Dixie"	J. F. Polsey "Exeter."		
00	1B	24		AA	From 0 to 5 ounces.	$\frac{1}{4}$ - $\frac{1}{2}$
0	2B	27		A		$\frac{1}{2}$ - 1
1	3B	30		B		$\frac{1}{2}$ - 1
2	4B	35	14	C		$\frac{1}{2}$ - 2
3	5B	40	18			$\frac{1}{2}$ - 4
4	6B	45	22	D and E		1 - 5
5	7B	53	26	F		1 - 7 $\frac{1}{2}$
6	8B	63	30	G		2 - 10
7	9B		34			3 - 15
8	10B		38	H and I		7 $\frac{1}{2}$ - 15
9	11B		42	J		10 - 20
10						20 - 25
36						25 - 35
37						35 - 35

Prices upon application.

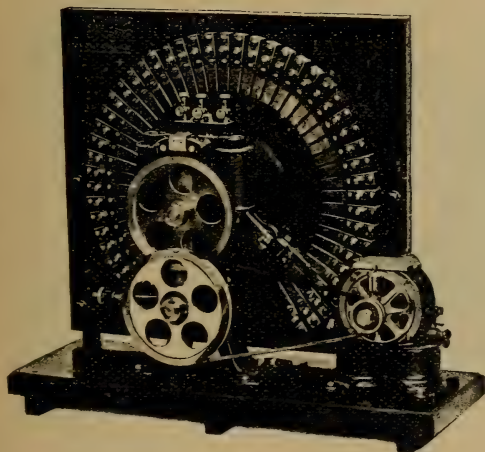


Controller and Rheostat.

### Automatic Pressure Controller.

The Controller automatically builds up the machine as soon as the Armature begins to revolve, and keeps the pressure constant without the slightest variation, under all loads, and in spite of rapid changes in speed. The Controller saves time and insures a steady light and long life of the lamps.

List No.		List Price. Each.
25060	Controller in Cabinet with Rheostat .....	\$150.00
25061	Controller in Cabinet without Rheostat .....	100.00
25062	Motor and Rheostat for regulating speed, for use with above, extra .....	50.00
25063	For currents above 20 amperes and up to 100 amperes, extra .....	50.00
25064	Potential Indicator, direct current .....	40.00
25065	Potential Indicator, alternating current .....	50.00



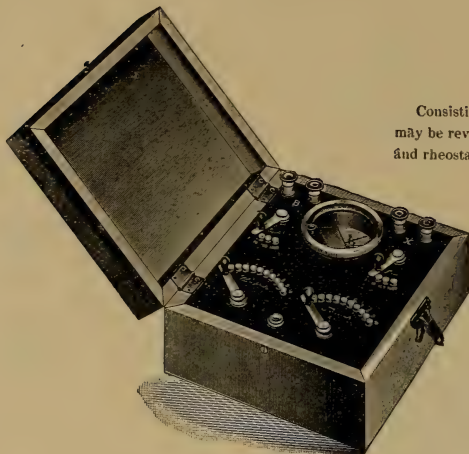
Patented.

### Controller Head.

This is designed for use with rheostat ordinarily supplied with dynamo or power generator.

Arranged with pulley to be driven by countershaft or motor as shown.

25066	Controller Head with Pulley...	100.00
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No. 25076.

### Wheatstone Bridge.

Consisting of a detector galvanometer so constructed that it may be revolved independently of the case; Wheatstone Bridge and rheostat in case with hard rubber engraved face.

A card of instructions accompanies each instrument.

Code Word.	List No.	List Price.
<i>Somnific</i>	<b>25076</b> Each.....	<b>\$80.00</b>



### Adjustable Transformer.

This Transformer is for use where the alternating current alone is available. It will give an alternating current of one to twenty amperes up to 30 volts pressure, and is particularly well adapted for hospital and dental work, where heavy currents are frequently used for cauterizing and operating lamps.

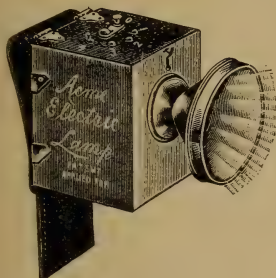
Prices on application.



No. 25077.

## The Acme Electric Lamps.

Inclosed in a neat nickel plated case, on the front of which is a parabolic reflector. It throws out a clear, steady light, which will last for ten, and with economical use for twelve or fourteen hours on one charge of the battery. In the cover of the case is a rheostat, so that as the battery becomes weakened from use, the light may be kept up to its initial brilliancy. The lamp, complete, weighs but 28 ounces.



No. 25079.

### Bicycle Lamp.

Code Word.	List No.	List Price. Each.
<i>Somniloquy</i>	25077 Complete .....	\$ 5.00
<i>Somnipathist</i>	25078 Renewal .....	.20

### Carriage Lamp.

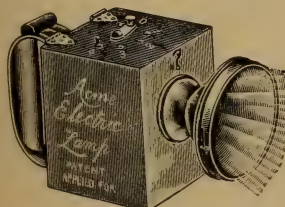
<i>Somniphathy</i>	25079 Dashboard Lamp .....	5.00
<i>Somnolence</i>	25080 Renewal .....	.20
<i>Somnolency</i>	25081 Road Wagon Lamp .....	10.00
<i>Somnolent</i>	25082 Renewal .....	.90



No. 25081.

### House Lamp.

<i>Somnolently</i>	25083 Complete .....	5.00
<i>Somnour</i>	25084 Renewal .....	.20

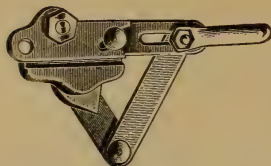


No. 25083 and No. 25085.

### Mine Lamp.

<i>Sonance</i>	25085 Complete .....	5.00
<i>Sonata</i>	25086 Renewal .....	.20





No. 25088.

### The Westfield Grip.

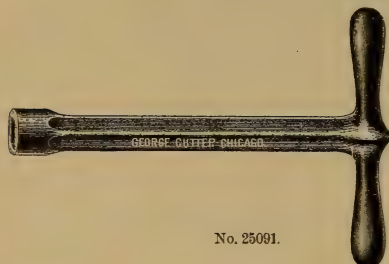
Carries any size Wire up to No. 4.

Code Word.	List No	List Price.
<i>Song</i>	25088	Each ..... \$ 2.50



### Improved Parallel Wire Stretcher.

<i>Songful</i>	25089	No. 0	Telephone size, small size, each.....	3.00
<i>Songfish</i>	25090	No. 1	Telegraph, Electric Light and Trolley Wire, each.....	3.50



No. 25091.

### Cutter Lag Screw Wrench.

Made in two sizes, for  $\frac{3}{4}$  inch and for  $\frac{1}{2}$  inch lag screws. Is especially handy for putting up windlasses, pole pulleys, brackets, and the like.

<i>Songless</i>	25091	For $\frac{3}{4}$ inch Lag Screws, each.....	.25
<i>Songster</i>	25092	For $\frac{1}{2}$ " " " each.....	.25



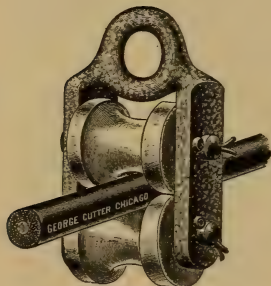
No. 25093.

### The Electric Spud.

The handles being made of crucible steel tubing, (especially for this purpose) and are as strong as a solid steel bar. The blades are forged from best open hearth crucible mining tool steel and tempered.

These Spuds are provided with tamper on upper end for tamping ground around pole, thus combining a Spud and tamping bar in one tool. Length 9 feet.

<i>Songstress</i>	25093	Each.....	3.00
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No. 25094.

### The Cutter Swinging Tree Insulator.

It is readily hung from a hook or wire twisted through the loop at the top, and by lengthening this wire the device will adapt itself to a wide range of conditions. It can also be used for supporting arc light wires under iron roofs.

<i>Soniferous</i>	25094	Per Dozen.....	2.00
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# TABLES.

In all the tables on determining the size of wire, the distance is the number of feet between the source of supply and the lights, and not the length of the wire.

LAMPS.

AMPERES PER LAMP.

VOLTS	52	75	110	220
10 C. P.	.6	.43	.32	.22
16 "	1.0	.68	.5	.33
20 "	1.25	.86	.64	.40
25 "	1.54	1.10	.80	.50
32 "	2.00	1.36	1.00	.65
50 "	3.10	2.20	1.60	1.02
100 "	6.20	4.30	3.20	2.05
150 "	9.30	6.40	4.75	3.07

WIRING TABLE FOR TWO PER CENT LOSS ON 50 VOLTS (TABLE FOR 1 VOLT LOSS).

No. of Amperes.	Distance in feet to center of distribution. (Wire sizes are indicated in B. and S. Gauge)																			
	20	25	30	35	40	45	50	60	70	80	90	100	120	140	160	180	200	250		
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	16	15	14	14	13	12	
1.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	15	14	13	13	12	11	
2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14	14	13	12	11	10	9	
3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	13	12	11	10	9	8	
4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	12	11	10	9	8	7	
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	11	10	9	8	7	6	
6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	10	9	8	7	6	5	
7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	9	8	7	6	5	4	
8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	8	7	6	5	4	3	
9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	7	6	5	4	3	2	
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	6	5	4	3	2	1	
12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	5	4	3	2	1	0	
14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	4	3	2	1	0	00	
16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	3	2	1	0	00	000	
18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	1	0	00	000	0000	
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	0	00	000	0000	00000	
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	00	000	0000	00000	000000	
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
90	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	
100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	00	00	000	0000	00000	000000	0000000	

WIRING TABLE 2 PER CENT LOSS 110 VOLTS.

[illegible]

WIRING TABLE 2 PER CENT LOSS 220 VOLTS.

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### WIRING TABLE FOR 100 VOLTS.

The figures at the top of each column indicate current in amperes.  
Distance given below in feet to center of distribution.

Wire sizes given in B. & S. gauge.																Distance given below in feet to center of distribution.															
2.	2.5/3.15	4.	5.	6.3	8.	10.	1	2	3	4	6	8	10	12	14	16	18	20	25	30	35	40	50	60	70	80	90	100			
0000	0000	0000	0000	0000	0000	0000	97.800	48.900	32.600	24.450	16.300	12.225	9.780	8.160	6.985	6.112	5.430	4.890	3.912	3.260	2.794	2.445	1.966	1.680	1.397	1.222	1.087	978	1,086		
0000	0000	0000	0000	0000	0000	0000	77.500	38.750	25.830	19.400	12.915	9.700	7.750	6.457	5.635	4.850	4.305	3.875	3.160	2.583	2.214	1.940	1.560	1.291	1.107	970	864	775	681		
0000	0000	0000	0000	0000	0000	0000	61.600	30.800	20.580	15.400	10.265	7.700	6.160	5.132	4.400	3.850	3.420	2.864	2.563	2.140	1.940	1.540	1.282	1.098	970	864	775	681	616		
0000	0000	0000	0000	0000	0000	0000	48.900	24.450	16.300	12.220	8.150	6.110	4.850	4.075	3.658	3.265	2.715	2.445	1.956	1.680	1.397	1.222	1.087	978	865	611	532	489	438		
0000	0000	0000	0000	0000	0000	0000	38.900	19.450	12.960	9.720	6.480	4.860	3.850	3.240	2.778	2.430	2.160	1.945	1.556	1.296	1.111	972	778	648	555	486	343	309	278		
0000	0000	0000	0000	0000	0000	0000	24.500	12.450	8.300	7.720	5.150	3.860	3.060	2.575	2.207	1.930	1.715	1.515	1.238	1.080	883	772	618	515	441	386	343	309	278		
0000	0000	0000	0000	0000	0000	0000	19.400	9.700	6.460	4.850	3.230	2.425	1.940	1.615	1.386	1.212	1.080	970	776	646	554	485	388	323	277	242	216	194	171		
0000	0000	0000	0000	0000	0000	0000	15.400	7.700	5.130	3.850	2.665	1.925	1.540	1.282	1.100	962	855	770	616	513	440	385	308	257	220	193	171	154	138		
0000	0000	0000	0000	0000	0000	0000	12.200	6.100	4.066	3.040	2.037	1.520	1.220	1.016	872	760	680	610	488	388	323	277	242	194	161	138	121	108	97		
0000	0000	0000	0000	0000	0000	0000	9.700	4.850	3.260	2.160	1.515	1.210	707	608	640	549	480	427	384	307	256	219	152	122	109	96	85	76	61	48	
0000	0000	0000	0000	0000	0000	0000	7.700	3.843	2.563	1.922	1.381	1.015	761	639	640	549	480	427	384	307	256	219	152	122	109	96	85	76	61	48	
0000	0000	0000	0000	0000	0000	0000	6.100	3.050	2.030	1.520	1.015	761	639	640	549	480	427	384	307	256	219	152	122	109	96	85	76	61	48	42	
0000	0000	0000	0000	0000	0000	0000	4.840	2.020	1.613	1.210	906	605	484	403	345	302	269	242	219	192	153	128	109	96	85	76	61	48	42	38	
0000	0000	0000	0000	0000	0000	0000	3.840	1.920	1.280	960	640	580	504	436	374	320	274	240	213	192	153	128	109	96	85	76	61	48	42	38	
0000	0000	0000	0000	0000	0000	0000	3.040	1.520	1.013	960	640	580	504	436	374	320	274	240	213	192	153	128	109	96	85	76	61	48	42	38	
0000	0000	0000	0000	0000	0000	0000	2.410	1.210	808	602	520	440	380	324	268	220	172	150	134	121	101	87	76	60	50	43	38	32	28	24	
0000	0000	0000	0000	0000	0000	0000	1.920	960	640	480	420	360	300	240	192	160	137	120	106	96	80	67	60	50	43	38	32	28	24	20	
0000	0000	0000	0000	0000	0000	0000	1.520	760	560	460	380	320	260	200	160	137	120	106	96	80	67	60	50	43	38	32	28	24	20	16	
0000	0000	0000	0000	0000	0000	0000	1.210	605	460	360	300	240	190	150	120	96	86	75	67	60	50	43	38	32	28	24	20	16	15	10	
0000	0000	0000	0000	0000	0000	0000	960	480	320	240	160	120	96	86	75	67	60	50	43	38	32	28	24	20	16	15	10	10	5	3	
0000	0000	0000	0000	0000	0000	0000	761	380	254	190	127	95	76	63	54	47	42	38	30	25	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	
0000	0000	0000	0000	0000	0000	0000	604	302	201	151	100	75	60	40	36	30	24	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0000	0000	0000	0000	0000	0000	0000	480	240	160	120	80	60	48	40	36	30	24	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0000	0000	0000	0000	0000	0000	0000	380	196	127	95	63	47	38	32	28	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0000	0000	0000	0000	0000	0000	0000	302	150	100	75	50	37	28	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
							At 100 volts.																				1 H. P. = 7.46 A. P. 1 a. = 134 H. P.				
							C.P. A.																				Std L.P.s				
							10 .35																				16 .50				
							25 .75																				25 .75				
							50 1.5																				160 4.5				

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### WIRING TABLE FOR 50 VOLTS.

[illegible]

### WIRING TABLE FOR 220 VOLTS.

[illegible]

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### WIRING TABLE FOR 440 VOLTS

[illegible]

Compiled by  
Thos. G. Grier  
April 30, 1897.



## The Metric System.

Metric Denominations and | Equivalents in Denomina-  
Values. | tions in use.

### WEIGHTS.

Name.	No. Grams.	Weight of what quantity of water at max. density.
Millier or tonneau	= 1,000,000	= 1 cubic meter.
Quintal	= 100,000	= 1 hectoliter.
Myriagram	= 10,000	= 10 liters.
Kilogram or Kilo	= 1,000	= 1 liter.
Hectogram	= 100	= 1 deciliter.
Dekagram	= 10	= 10 cubic centimeters.
Gram	= 1	= 1 cubic centimeter.
Decigram	= .1	= 1 cubic centimeter.
Centigram	= .01	= 10 cubic millimeters.
Milligram	= .001	= 1 cubic millimeter.

Name.	No. Grams.	Avordupois Weight.
Millier or tonneau	= 1,000,000	= 2,204.6 pounds.
Quintal	= 100,000	= 220.46 pounds.
Myriagram	= 10,000	= 22.046 pounds.
Kilogram or Kilo	= 1,000	= 2.2046 pounds.
Hectogram	= 100	= 3.5274 ounces.
Dekagram	= 10	= 0.3527 ounces.
Gram	= 1	= 15.432 grains.
Decigram	= .1	= 1.5432 grains.
Centigram	= .01	= 0.1543 grain.
Milligram	= .001	= 0.0154 grain.

### MEASURES OF LENGTH.

Myriameter	= 10,000 meters	= 6,213.7 miles.
Kilometer	= 1,000 meters	= 0.62137 m. or 3,280 ft. 10 in.
Hectometer	= 100 meters	= 328 feet and 1 inch.
Dekameter	= 10 meters	= 39.37 inches.
Meter	= 1 meter	= 39.37 inches.
Decimeter	= .1 of a meter	= 3.937 inches.
Centimeter	= .01 of a meter	= 0.3937 inch.
Millimeter	= .001 of a meter	= 0.0394 inch.

### MEASURES OF SURFACE.

Hectare	= 10,000 square meters	= 2.471 acres.
Are	= 100 square meters	= 119.6 square yards.
Centare	= 1 square meter	= 1.550 square inches.

### MEASURES OF CAPACITY.

Name.	No. Liters.	Cubic Measure.	Dry Measure.
Kiloliter	= 1,000	= 1 cu. meter	= 1.358 cubic yards.
Hectoliter	= 100	= 1 cu. meter	= 2 bush. 3.35 pks.
Decaliter	= 10	= 10 c. decimet.	= 9.08 quarts.
Liter	= 1	= 1 c. decimet.	= 0.908 quart.
Deciliter	= .1	= 10 c. centim.	= 6.1022 cubic in.
Centiliter	= .01	= 10 c. centim.	= 6.1022 cubic in.
Milliliter	= .001	= 1 c. centim.	= 0.061 cubic in.
Name.	No. Liters.	Cubic Measure.	Wine Measure.
Kiloliter	= 1,000	= 1 cubic meter	= 264.17 galls.
Hectoliter	= 100	= 1 cubic meter	= 264.17 galls.
Decaliter	= 10	= 10 c. decimeters	= 2.6417 galls.
Liter	= 1	= 1 c. decimeter	= 1.0567 qts.
Deciliter	= .1	= 1 c. decimeter	= 0.845 gill.
Centiliter	= .01	= 10 c. centimet.	= 0.338 fluid oz.
Milliliter	= .001	= 1 c. centimet.	= 0.27 fluid oz.

## Table of Decimal Equivalents

OF

8ths, 16ths, 32ds and 64ths of an Inch.

FOR USE IN CONNECTION WITH THE  
MICROMETER CALIPERS.

8ths.	32	19
	= .28125	= .296875
16ths.	32	64
	= .34375	= .328125
32ds.	32	64
	= .40625	= .359375
64ths.	32	64
	= .46875	= .390625
	17	27
	= .53125	= .421875
	32	64
	= .59375	= .453125
	21	31
	= .65625	= .484375
	32	64
	= .71875	= .515625
	25	35
	= .78125	= .546875
	32	64
	= .84375	= .578125
	32	64
	= .90625	= .609375
	31	41
	= .96875	= .640625
	64	64
	= .671875	
64ths.	45	45
	= .703125	
	64	64
	= .734375	
	49	49
	= .765625	
	64	64
	= .796875	
	53	53
	= .828125	
	57	57
	= .859375	
	61	61
	= .890625	
	65	65
	= .921875	
	69	69
	= .953125	
	73	73
	= .984375	

## WIRING TABLE FOR 500 VOLTS.

Per cent. loss at 500 volts Wire sizes given in B. & S. gauge.										The figures at the top of each column indicate currents in amperes. Distance given below in feet to center of distribution.									
2.	2.5	3.15	4.	5.	6.3	8.	10.	30	35	40	50	60	70	80	90	100			
.....	.....	.....	.....	.....	.....	.....	.....	16,300	13,370	12,225	9,780	8,160	6,985	6,112	5,430	4,890			
.....	.....	.....	.....	.....	.....	.....	.....	000	12,910	11,070	9,700	7,750	6,455	5,585	4,850	4,375			
.....	.....	.....	.....	.....	.....	.....	.....	000	10,260	8,800	7,700	6,160	5,130	4,400	3,850	3,430			
.....	.....	.....	.....	.....	.....	.....	.....	0	8,150	6,985	6,110	4,890	4,075	3,490	3,065	2,715			
.....	.....	.....	.....	.....	.....	.....	.....	0	6,480	5,555	4,860	3,890	3,240	2,777	2,430	2,160			
.....	.....	.....	.....	.....	.....	.....	.....	0	5,150	4,415	3,860	3,090	2,575	2,207	1,930	1,716			
.....	.....	.....	.....	.....	.....	.....	.....	0	4,080	3,500	3,060	2,450	2,020	1,750	1,530	1,360			
.....	.....	.....	.....	.....	.....	.....	.....	0	3,230	2,772	2,425	1,940	1,615	1,386	1,212	1,077			
.....	.....	.....	.....	.....	.....	.....	.....	0	2,570	2,200	1,925	1,540	1,285	1,100	960	857			
.....	.....	.....	.....	.....	.....	.....	.....	0	2,030	1,745	1,520	1,220	1,015	872	760	676			
.....	.....	.....	.....	.....	.....	.....	.....	0	1,617	1,385	1,210	970	808	692	605	539			
.....	.....	.....	.....	.....	.....	.....	.....	0	1,281	1,098	951	769	640	549	480	427			
.....	.....	.....	.....	.....	.....	.....	.....	0	1,016	871	760	610	508	435	380	340			
.....	.....	.....	.....	.....	.....	.....	.....	0	807	691	605	494	403	.....	.....	.....			
.....	.....	.....	.....	.....	.....	.....	.....	0	640	545	430	.....	.....	.....	.....	.....			
.....	.....	.....	.....	.....	.....	.....	.....	0	506	436	.....	.....	.....	.....	.....	.....			
.....	.....	.....	.....	.....	.....	.....	.....	0	401	344	.....	.....	.....	.....	.....	.....			
.....	.....	.....	.....	.....	.....	.....	.....	0	320	.....	.....	.....	.....	.....	.....	.....			

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# WIRING TABLE FOR 500 VOLTS.

Per cent. loss at 500 volts. Wire sizes given in B. & S. gauge.										The figures at the top of each column indicate primary current in amperes. Distance given below in feet to center of distribution.															
2.	2.5	3.15	4.	5.	6.3	8.	10.			1	2	3	4	5	6	7	8	9	10	15	20	25			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	489.00	244.50	163.00	122.25	97.80	81.50	69.85	61.125	54.30	48.90	32.60	24.45	19.65			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	387.50	194.00	129.15	97.00	77.50	64.575	55.35	48.500	43.060	38.750	25.830	19.400	15.500			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	308.00	154.00	102.55	77.00	61.600	51.925	44.40	38.500	34.300	30.500	20.330	15.400	12.320			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	244.50	122.25	81.50	61.100	49.300	40.750	34.225	30.550	27.150	24.450	16.300	12.220	9.780			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	194.00	97.00	64.575	48.600	38.900	32.400	27.780	24.300	21.600	19.450	12.960	9.720	7.780			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	154.00	77.00	51.925	38.600	30.000	25.750	22.075	19.300	17.150	15.450	10.300	7.720	6.180			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	122.25	61.10	40.750	30.600	24.500	21.150	17.600	15.300	13.600	12.250	8.166	6.120	4.900			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	97.00	48.50	32.300	24.550	19.400	16.150	13.860	12.125	10.800	9.700	6.460	4.400	3.580			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	81.50	38.500	25.650	19.250	15.400	12.825	11.000	9.625	8.550	7.700	5.130	3.850	3.080			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	69.85	32.500	20.330	15.200	12.200	10.165	8.725	7.600	6.800	6.100	4.066	3.040	2.450			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	61.125	28.450	18.170	12.100	9.700	8.085	6.925	6.050	5.400	4.850	3.230	2.420	1.940			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	54.300	24.450	15.500	10.300	8.150	6.750	5.750	4.900	4.350	3.850	2.560	1.922	1.538			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	48.900	20.330	12.320	8.166	6.460	5.400	4.600	3.950	3.500	3.050	2.030	1.520	1.220			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	43.060	18.170	10.665	7.000	5.500	4.600	3.950	3.400	3.000	2.600	1.613	1.210	988			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	38.750	15.500	9.600	6.400	5.000	4.200	3.600	3.100	2.700	2.400	1.280	960	768			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	32.400	12.960	8.065	5.400	4.200	3.500	3.000	2.600	2.300	2.000	1.030	760	608			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	27.780	10.300	6.605	4.400	3.400	2.900	2.500	2.100	1.800	1.600	840	640	504			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	24.300	9.700	6.100	4.000	3.000	2.600	2.200	1.900	1.700	1.500	780	584	464			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	21.600	8.150	5.250	3.400	2.600	2.200	1.900	1.600	1.400	1.200	640	480	384			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	19.450	7.720	4.850	3.100	2.300	1.900	1.600	1.400	1.200	1.000	520	384	304			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	17.150	6.120	3.850	2.500	1.800	1.500	1.200	1.000	800	600	320	240	192			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	15.450	5.130	3.230	2.100	1.600	1.300	1.100	900	700	500	260	200	160			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	13.600	4.166	2.500	1.600	1.200	1.000	800	600	400	300	160	120	96			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	12.250	3.580	2.150	1.400	1.000	800	600	400	300	200	100	80	64			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	10.800	3.050	1.800	1.200	900	700	500	400	300	200	100	80	64			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	9.700	2.560	1.500	1.000	750	600	450	350	250	150	80	60	48			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	8.550	2.030	1.200	800	600	450	350	250	150	100	50	40	32			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	7.700	1.613	1.000	700	500	350	250	150	100	50	25	20	16			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	6.800	1.280	800	550	400	300	200	150	100	50	25	20	16			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	6.100	1.030	640	450	300	200	150	100	50	25	15	12	10			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	5.400	840	384	264	192	128	96	72	48	32	16	12	10			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	4.850	768	320	224	160	112	80	64	48	32	16	12	10			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	4.350	640	208	144	104	72	56	40	32	24	12	10	8			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	3.850	504	160	112	80	56	40	32	24	16	12	10	8			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	3.500	420	128	96	64	48	32	24	16	12	10	8	6			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	3.050	320	96	64	48	32	24	16	12	10	8	6	4			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	2.600	240	64	48	32	24	16	12	10	8	6	4	3			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	2.300	192	48	32	24	16	12	10	8	6	4	3	2			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	2.030	152	32	24	16	12	10	8	6	4	3	2	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1.800	120	24	16	12	10	8	6	4	3	2	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1.600	96	16	12	10	8	6	4	3	2	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1.400	72	12	10	8	6	4	3	2	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1.200	48	8	6	4	3	2	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1.000	32	4	3	2	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	800	24	3	2	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	700	16	2	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	600	8	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	500	4	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	400	2	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	300	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	200	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	100	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	50	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	25	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	12	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	6	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	3	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1	1	1	1	1	1	1	1	1	1	1			
.....	.....	.....	.....	.....	.....	.....	.....	0000	0000	1	1	1													

The figures at the top of each column indicate primary currents in

The figures at the top of each column indicate primary currents in amperes.  
Distance given below in feet to center of distribution.

At 2,000 volts

110 2,000 Volts.

$$1 \text{ hp.} = .373 \text{ a}$$

000 volts. The figures at the top of each column indicate primary currents in

The figures at the top of each column indicate primary currents in amperes.  
Distance given below in feet to center of distribution.

At 3,000 volts.

10 0000 10000

hp. = .248 a.

ss at 5,000 volts. The figures at the top of each column indicate primary currents

The figures at the top of each column indicate primary currents in amperes  
Distance given below in feet to center of distribution.

1000 volts.
$$= .149 a.$$
$$= 6.7 \text{ hp.}$$

## Bare Copper Wire.

SPECIAL PRICES QUOTED ON EITHER SOFT OR HARD DRAWN.



Am. Gauge. B. & S. No.	Diam. Mils.	Area		Weight & L'th Sp. Gr. 8.9		Resistance at 75° F		
		Circular Mils. (d <sup>2</sup> 1 Mil = .001 inch.	Square in. (d x 7854).	Lbs. per 1,000 Ft.	Pounds per Mile.	Feet per Pound.	Ohms per 1,000 Feet.	Ohms per Mile
0000	460.000	211600.00	166190	639.33	3375.7	1.56	.04906	.25903
000	409.640	167805.00	131790	507.01	2677.0	1.97	.06186	.32664
00	364.800	133079.40	104520	402.09	2123.0	2.49	.07801	.41187
0	324.950	105592.50	82932	319.04	1684.5	3.13	.09831	.51909
1	289.300	83691.20	65733	252.88	1335.2	3.95	.12404	.65490
2	257.630	66373.00	52130	200.54	1058.8	4.99	.15640	.82582
3	229.420	52634.00	41339	159.03	839.68	6.29	.19723	1.0414
4	204.310	41742.00	32784	126.12	665.91	7.93	.24869	1.3131
5	181.940	33102.00	25998	100.01	528.05	10.00	.31361	1.6558
6	162.020	26250.50	20617	79.32	418.81	12.61	.39546	2.0881
7	144.280	20816.00	16349	62.90	332.11	15.90	.49871	2.6331
8	128.490	16509.00	12966	49.88	263.37	20.05	.62881	3.3201
9	114.430	13094.00	10284	39.56	208.88	25.28	.79281	4.1880
10	101.890	10381.00	8153.2	31.37	165.63	31.38	1.0000	5.2800
11	90.742	8234.00	6467.0	24.88	137.37	40.20	1.2607	6.5658
12	80.808	6529.90	5128.6	19.73	104.18	50.69	1.5898	8.3940

## Dimensions and Resistances of Copper Wire.

LARGER THAN NO. 0000 B. &amp; S.

No. B. & S.	Diameter. In.	Circular Mils.	Feet per Lb.	Lbs. per Foot.	Feet per Lb.	Ohms per Mile.	Approximate Safe Carrying Capacity Amperes.	H. P. Carried at 500 Volts.
5"	$\frac{5}{16}$ 515	265225	1.2963	.8023	24658	205776	375	251.3
6"	$\frac{3}{8}$ 575	330625	.9988	1.0000	31986	165075	457	306.3
7"	$\frac{7}{16}$ 640	409600	.8070	1.2391	38843	133244	533	342.2
8"	$\frac{1}{2}$ 710	504100	.6557	1.5250	48769	108266	620	414.2
9"	$\frac{9}{16}$ 785	616225	.5364	1.8642	59615	088566	709	476.5
10"	$\frac{5}{8}$ 865	748225	.4416	2.2535	72385	.072941	786	526.8
11"	$\frac{11}{16}$ 950	902500	.3662	2.7302	87302	.060495	849	569.
12"	$1\frac{1}{16}$ 1040	1081600	.2131	3.2720	104641	.050450	940	630.

## Galvanized Iron Telegraph Wire.

SPECIAL PRICES QUOTED ON APPLICATION

Can be Furnished also in Two Ply Twisted, for Guy Purposes. Western Union Standard  
Sp. Grav. 7.74.

D. W. G.	Size Bundle.	Weight in Pounds.		Resist. in B.A. Ohms at 75° F	
		Per 1,000 Feet.	Per Mile	Per 1,000 Feet.	Per Mile
4	$\frac{1}{4}$ Mile.	149.25	788.01	1.15	6.09
5	$\frac{1}{2}$ "	127.54	673.44	1.35	7.12
6	$\frac{3}{4}$ "	108.6	573.38	1.58	8.37
7	$\frac{1}{2}$ "	85.38	450.81	2.023	10.65
8	$\frac{3}{4}$ "	71.74	378.82	2.4	12.67
9	$\frac{1}{2}$ "	57.72	304.77	2.98	15.75
10	$\frac{3}{4}$ "	47.32	249.84	3.64	19.21
11	$\frac{1}{2}$ "	37.95	200.36	4.54	23.95
12	$\frac{3}{4}$ "	31.31	165.01	5.51	29.30
13	$\frac{1}{2}$ "	29.94	125.57	7.24	38.22
14	$\frac{3}{4}$ "	18.15	95.85	9.48	50.07



Table showing Difference  
Between Wire Gauges in Decimal  
Parts of an Inch.

No. of Wire Gauge.	American or British or Sharpe.	Birmingham or Sub.	Washburn & Moen Manufacturing Co., Worcester, Mass.	Trenton Iron Co., Trenton, N. J.	New British.	Old English Iron Brass Mfrs. List.	No. of Wire.
000000	.....	...	46	.....	.....	.....	000000
00000	.....	...	46	.....	.....	.....	00000
0000	.46	.454	393	.4	.....	.....	0000
000	.4864	.425	362	.36	.372	.....	000
00	.3648	.38	331	.33	.348	.....	00
0	.32405	.34	307	.305	.324	.....	0
1	.2893	.3	283	.285	.3	.....	1
2	.25763	.284	263	.265	.276	.....	2
3	.22942	.259	244	.245	.252	.....	3
4	.20491	.238	225	.225	.232	.....	4
5	.18194	.22	207	.205	.212	.....	5
6	.16202	.203	192	.19	.192	.....	6
7	.14438	.18	177	.175	.176	.....	7
8	.12849	.165	162	.16	.16	.....	8
9	.11443	.148	148	.145	.144	.....	9
10	.10189	.134	135	.13	.128	.....	10
11	.090742	.12	.12	.1175	.116	.....	11
12	.080608	.109	.105	.105	.104	.....	12
13	.071961	.095	.092	.0925	.092	.....	13
14	.064084	.083	.08	.08	.08	.083	14
15	.057068	.072	.072	.07	.072	.072	15
16	.05082	.065	.063	.061	.064	.065	16
17	.045257	.058	.054	.0525	.056	.058	17
18	.040303	.049	.047	.045	.048	.049	18
19	.03589	.042	.041	.039	.04	.04	19
20	.031961	.035	.035	.034	.036	.035	20
21	.028462	.032	.032	.03	.032	.0315	21
22	.025347	.028	.028	.027	.028	.0285	22
23	.022571	.025	.025	.024	.024	.027	23
24	.0201	.022	.023	.0215	.022	.025	24
25	.0179	.02	.02	.019	.02	.023	25
26	.01594	.018	.018	.018	.018	.0205	26
27	.014135	.016	.017	.017	.0164	.01875	27
28	.012541	.014	.016	.016	.0148	.0185	28
29	.011257	.013	.015	.015	.0136	.0155	29
30	.010025	.012	.014	.014	.0134	.01375	30
31	.008928	.01	.0135	.013	.0116	.01225	31
32	.00795	.009	.013	.012	.0108	.01125	32
33	.00708	.008	.011	.011	.01	.01025	33
34	.006394	.007	.01	.01	.0092	.0095	34
35	.005614	.005	.0095	.009	.0084	.009	35
36	.005	.004	.009	.008	.0076	.0075	36
37	.004453	...	.0085	.00725	.0068	.0065	37
38	.003965	...	.008	.0065	.006	.00575	38
39	.003531	...	.0075	.00575	.0052	.005	39
40	.003144	...	.007	.005	.0048	.0045	40

Equivalents of Wires  
Brown & Sharpe Gauge.

0000	2 No. 0	4 No. 3	8 No. 6	16 No. 9	32 No. 12	64 No. 15
000	2 " 1	4 " 4	8 " 7	16 " 10	32 " 13	64 " 16
00	2 " 2	4 " 5	8 " 8	16 " 11	32 " 14	64 " 17
0	2 " 3	4 " 6	8 " 9	16 " 12	32 " 15	64 " 18
1	2 " 4	4 " 7	8 " 10	16 " 13	32 " 16	64 " 19
2	2 " 5	4 " 8	8 " 11	16 " 14	32 " 17	64 " 20
3	2 " 6	4 " 9	8 " 12	16 " 15	32 " 18	64 " 21
4	2 " 7	4 " 10	8 " 13	16 " 16	32 " 19	64 " 22
5	2 " 8	4 " 11	8 " 14	16 " 17	32 " 20	64 " 23
6	2 " 9	4 " 12	8 " 15	16 " 18	32 " 21	64 " 24
7	2 " 10	4 " 13	8 " 16	16 " 19	32 " 22	64 " 25
8	2 " 11	4 " 14	8 " 17	16 " 20	32 " 23	64 " 26
9	2 " 12	4 " 15	8 " 18	16 " 21	32 " 24	64 " 27
10	2 " 13	4 " 16	8 " 19	16 " 22	32 " 25	64 " 28
11	2 " 14	4 " 17	8 " 20	16 " 23	32 " 26	64 " 29
12	2 " 15	4 " 18	8 " 21	16 " 24	32 " 27	64 " 30
13	2 " 16	4 " 19	8 " 22	16 " 25	32 " 28	
14	2 " 17	4 " 20	8 " 23	16 " 26	32 " 29	
15	2 " 18	4 " 21	8 " 24	16 " 27	32 " 30	
16	2 " 19	4 " 22	8 " 25	16 " 28		
17	2 " 20	4 " 23	8 " 26	16 " 29		
18	2 " 21	4 " 24	8 " 27	16 " 30		
19	2 " 22	4 " 25	8 " 28			
20	2 " 23	4 " 26	8 " 29			
21	2 " 24	4 " 27	8 " 30			

# Electric Light Conductors.

BROWN & SHARPE.	DIAMETER.	SQUARE OF DIAMETER.	SECTIONAL AREA.	SAFE CARRYING CAPACITY IN AMPERES.			WEIGHT.			LENGTH.		RESISTANCE OF PURE COPPER WIRE AT 75 DEGREES F. (23.89 DEG. CENT.)						
				National Code.	Chicago Code.	New England Code.	Pounds per 1,000 Feet.	Pounds per Mile.	Pounds per 1,000 Feet.	Pounds per Mile.	Feet per Pound	Feet per Pound	Ohms per 1,000 Feet.	Ohms per Mile.	Feet per Ohm.	Ohms per Pound.		
No.	Mils.	Millimetres.	Square Mils.	Square Millimetres														
0000	460 000	11 684	211600	0 107 219	175 300	218 312	639 33 3359	758 4000	1 6	1 25	20383	25903	04906	25903	20383	000076736		
0000	469 640	10 405	167805	0 85 028	145 245	181 262	507 01 2663	606 3200	2 2	1 75	16165	32964	06186	32964	16165	000120339		
00	364 800	9 266	133079	4 67 431	120 215	150 220	402 09 2112	442 2800	2 5	2	12820	41187	07801	41187	12820	00019423		
0	324 950	8 254	105592	5 53 504	100 190	125 185	319 04 1661	385 2036	3 2	2 50	10409	51909	09831	51909	10409	00030772		
1	289 300	7 348	88694	2 42 409	95 160	105 156	252 88 1328	308 1628	4 3	3 25	8062	45490	12404	45490	8062	00048694		
2	257 680	6 544	66373	0 33 632	70 135	88 131	200 54 1069	250 1310	5 4	4	6383	82582	15640	82582	6383	00078045		
3	229 420	5 827	52634	0 26 670	60 115	75 110	250 03 835	201 1060	6 3	5	5070	10474	19723	10474	5070	0012406		
4	204 310	5 189	41742	0 21 451	50 100	63 92	126 12 692	163 862	8 6	6	4021	13131	24869	13131	4021	0019721		
5	181 940	4 621	33102	0 16 773	45 90	53 77	100 01 526	134 706	10 7	7 50	3188	16558	31361	16558	3188	0031361		
6	162 020	4 115	29250	5 13 301	35 80	45 65	79 32 417	110 577	12 6	9	2528	20881	39546	20881	2528	0049868		
7	144 280	3 665	20816	0 10 548	30 67	36 62	90 330	90 475	16 11	11	2005	25331	49871	25331	2005	0073204		
8	128 490	3 264	16509	0 8 366	25 60	33 46	49 80 292	74 392	20 13	13 50	1590	33201	62881	33201	1590	012608		
9	144 430	2 907	13044	0 6 635	50	56 39	56 208	62 328	25 16	16	1261	41860	79281	41860	1261	020042		
10	101 890	2 588	10381	0 5 290	20 40	25 32	31 37 165	52 275	32 19	19	1000	52800	1	52800	1000	031380		
11	90 742	2 305	8234	0 4 172	35	35	24 88 131	44 291	40 22	22 75	743	65608	1 2907	65608	743	050682		
12	80 808	2 053	6829	9 3 309	15 30	17 23	19 73 103	36 193	51 27	25	83940	83940	1 5898	83940	629 02	060585		
13	71 931	1 828	5178	4 2 618	10 26	12 15	15 65 82	31 102	61 32	32 50	498 83	498 83	2 0047	10 585	498 83	12841		
14	64 084	1 628	4106	8 2 081	10 22	12 16	12 41 65	26 135	81 39	39	385 97	385 97	2 5908	13 680	385 97	20880		
15	57 008	1 450	3286	7 1 050	18	18	9 84 51	5 21	111 102	47 50	31150	31150	3 1150	16 477	321 02	31058		
16	50 820	1 291	2582	9 1 309	15	15	7 81 41	18 961	129 55	55	248 81	248 81	4 0191	21 221	248 81	51501		



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1643	456	1745	421	1902	440	2062	217	2166	226
1645	456	1746	421	1903	440	2063	217	2167	227
1648	421	1747	421	1904	440	2064	217	2168	227
1650	453	1748	364	1905	440	2065	217	2169	226
1651	453	1749	364	1906	440	2066	217	2170	227
1652	453	1750	364	1907	440	2067	217	2171	227
1653	453	1751	364	1908	440	2068	217	2172	226
1654	453	1752	364	1909	440	2069	217	2173	226
1655	453	1753	364	1910	440	2070	217	2174	227
1656	453	1804	136	1911	440	2071	217	2175	227
1657	453	1805	136	1912	440	2072	217	2176	226
1658	453	1806	136	1913	440	2073	217	2177	227
1659	453	1807	136	1914	440	2074	217	2178	227
1660	453	1808	136	1915	440	2075	217	2179	226
1661	453	1809	136	1916	440	2076	217	2180	227
1662	453	1810	136	1917	440	2077	217	2181	227
1663	453	1811	136	1918	440	2078	217	2182	226
1664	453	1812	136	1919	440	2079	217	2183	227
1665	453	1813	137	1920	440	2080	217	2184	227
1666	453	1813½ (for 1813)	456	1921	90	2081	217	2185	226
1667	453	1814	137	1922	93	2082	217	2186	227
1668	453	1815	137	1923	397	2083	217	2187	227
1669	453	1816	137	1924	398	2084	217	2188	226
1670	453	1817	137	1925	398	2085	217	2189	226
1671	453	1818	137	1926	399	2086	217	2190	226
1672	453	1819	137	1927	399	2087	217	2191	226
1673	453	1820	137	1928	396	2088	217	2192	226
1674	453	1821	137	1929	396	2089	217	2193	226
1675	453	1822	137	1930	396	2090	217	2194	225
1676	453	1823	137	1932	440	2091	217	2197	225
1677	453	1824	137	1933	440	2092	217	2200	225
1678	453	1825	137	1934	440	2093	217	2203	225
1679	453	1826	137	1935	440	2094	217	2206	225
1680	453	1827	137	1936	440	2095	217	2213	13
1681	453	1828	137	1937	440	2097	457	2214	13
1682	453	1829	137	1938	440	2100	228	2215	13
1683	453	1830	137	1939	440	2101	228	2216	13
1684	453	1831	137	1940	229	2102	228	2217	13
1685	453	1832	137	1941	229	2103	228	2218	13
1686	453	1833	137	1942	229	2204	228	2219	22
1687	453	1834	137	1942½	229	2105	228	2220	22
1688	453	1835	137	1943	229	2106	228	2221	22
1689	453	1836	137	1944	230	2107	228	2222	22
1690	453	1837	137	1945	230	2108	228	2223	22
1691	453	1838	137	1946	230	2109	228	2229	14
1692	453	1839	137	1947	230	2110	228	2230	14
1693	453	1840	137	1948	91	2111	228	2234	247
1694	453	1841	137	1949	92	2112	228	2235	247
1695	453	1842	137	1950	441	2113	228	2236	248
1696	453	1843	137	1951	441	2114	228	2237	248
1697	453	1844	137	1952	441	2115	228	2238	248
1698	453	1845	10	1953	441	2116	228	2239	219
1699	453	1846	10	1954	441	2117	228	2242	219
1700	451	1847	10	1955	441	2118	228	2283	219
1701	451	1848	10	1956	441	2119	228	2234	219
1702	451	1849	137	1957	441	2120	228	2235	219
1703	451	1850	137	1958	441	2121	228	2236	219
1704	451	1851	135	1959	441	2122	228	2237	219
1705	451	1852	135	1960	441	2123	228	2238	219
1706	451	1853	135	1961	441	2124	225	2239	219
1707	451	1854	135	1962	441	2125	225	2240	219
1708	451	1855	135	1963	441	2126	225	2241	219
1709	451	1857	406	1964	441	2127	225	2242	219
1710	451	1858	406	1965	441	2128	225	2243	219
1711	451	1867	94	1966	441	2129	225	2244	219
1712	451	1868	30	1967	441	2130	225	2245	219
1713	451	1869	30	1968	441	2131	225	2246	219
1714	451	1870	437	1969	441	2132	225	2247	219
1715	451	1871	437	1970	441	2133	225	2248	219
1716	451	1872	437	1971	441	2134	225	2249	219
1717	451	1873	437	1972	441	2135	225	2250	219
1718	451	1874	437	1973	441	2136	225	2251	219
1719	451	1875	437	1974	441	2137	225	2252	219
1720	451	1876	437	1975	441	2138	225	2253	219
1721	452	1877	437	1976	441	2139	225	2254	219
1722	452	1878	437	1977	441	2140	225	2255	219
1723	452	1879	437	1978	441	2141	225	2256	219
1724	452	1880	437	1979	441	2142	225	2257	219
1725	452	1881	437	1980	441	2143	225	2258	219
1726	452	1882	437	1981	441	2144	225	2259	219
1727	452	1883	437	1982	441	2145	225	2260	219
1728	452	1884	437	1983	441	2146	225	2261	219
1729	452	1885	437	1984	441	2147	225	2262	219
1730	452	1886	437	1985	441	2148	225	2263	219
1731	452	1887	437	1986	441	2149	225	2264	219
1732	452	1888	437	1987	441	2150	225	2265	219
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1735	452	1891	440	1990	230	2154	225	2268	219
1736	452	1892	440	2000	229	2155	227	2269	219
1737	452	1894	440	2001	150	2156	227	2270	219
1738	452	1895	440	2002	151	2157	227	2271	219
1739	452	1896	440	2003	151	2158	227	2272	219
1740	452	1897	440	2004	151	2159	227	2273	219
1741	452	1898	440	2005	151	2160	227	2274	219
1742	452	1899	440	2006	151	2161	227	2275	219
1743	421	1900	440	2007	151	2162	227	2276	219
1744	421	1901	440	2008	151	2163	227	2277	219
				2009	151	2164	227	2278	219
				2010	151	2165	227	2279	219

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2328	237	2343	345	2373	354	2778	207	2915	405
2329	237	2344	345	2374	354	2779B	206	2916	364
2330	237	2345	345	2375	354	2779	206	2917	364
2331	237	2346	345	2376	354	2780	206	2918	364
2334	390	2347	346	2377	220	2781	206	2919	364
2335	390	2348	346	2378	16	2782	216	2920	364
2336	393	2349	346	2380	352	2783	216	2921	91
2337	394	2350	376	2381	352	2784	216	2922	406
2338	394	2351	376	2382	352	2785	216	2924	406
2339	394	2352	376	2383	352	2786	216	2925	406
2341	401	2353	376	2388	352	2787	216	2926	142
2344	406	2354	361	2389	352	2789	208	2927	38
2345	406	2355	361	2390	352	2793	208	2931	406
2346	407	2356	361	2399	457	2794	209	2932	406
2347	407	2357	361	2401	352	2795	419	2933	406
2348	388	2358	361	2404	101	2796	419	2934	406
2349	388	2359	361	2406	457	2797	208	2935	406
2350	388	2360	361	2407	457	2798	208	2944	404
2351	389	2361	361	2408	457	2799	216	2945	364
2352	389	2362	361	2700	100	2800	209	2946	364
2353	389	2363	361	2701	100	2801	209	2947	364
2354	363	2364	361	2702	100	2803	218	2949	38
2355	205	2366	401	2703	100	2804	218	2991	341
2356	205	2367	401	2704	100	2806	218	2992	341
2357	205	2368	401	2705	100	2807	218	3000	421
2358	205	2369	401	2706	100	2808	218	3000½ (for 3000)	421
2359	205	2370	401	2707	100	2809	218	3001	434
2360	205	2371	401	2708	100	2810	340	3002	434
2361	205	2372	401	2709	100	2821	340	3003	434
2362	205	2373	401	2710	100	2822	340	3004	434
2363	205	2374	401	2711	100	2823	340	3074	424
2364	205	2375	397	2712	100	2824	340	3006	434
2365	205	2376	77	2713	100	2825	340	3007	434
2366	205	2377	77	2714	100	2826	340	3008	434
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2368	205	2379	77	2716	100	2828	340	3010	434
2369	206	2380	77	2717	100	2829	340	3011	434
2370	206	2381	77	2718	100	2830	340	3012	434
2371	260	2382	77	2719	100	2831	340	3013	434
2372	260	2383	77	2720	100	2832	340	3014	434
2373	260	2384	77	2721	100	2833	340	3015	434
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2375	260	2386	77	2723	100	2835	351	3017	434
2376	260	2387	77	2724	100	2836	351	3018	434
2377	260	2388	77	2725	100	2837	351	3019	434
2378	260	2389	77	2726	100	2838	351	3020	434
2379	260	2390	77	2727	100	2839	351	3021	434
2380	263	2391	77	2728	100	2840	351	3022	434
2381	263	2392	77	2729	86	2841	351	3023	434
2382	263	2394	222	2729½ (for 2729)	191	2843	163	3024	434
2383	263	2395	222	2730	191	2845	10	3025	434
2384	263	2396	222	2731	191	2846	10	3026	435
2385	264	2397	223	2732	191	2847	10	3027	435
2386	260	2398	223	2733	206	2848	174	3028	435
2388	376	2399	223	2734	206	2849	174	3029	435
2389	368	2400	223	2735	206	2850	147	3030	435
2390	368	2401	223	2736	206	2851	147	3031	435
2394	59	2402	223	2737	207	2852	167	3032	435
2395	59	2403	223	2738	207	2853	403	3033	435
2396	405	2404	223	2739	207	2854	403	3034	435
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2398	405	2406	223	2741	207	2856	403	3036	435
2399	405	2407	223	2742	207	2857	403	3037	435
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2401	405	2409	220	2744	209	2859	404	3040	227
2402	405	2410	220	2745	209	2860	404	3041	227
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2408	73	2416	233	2751	209	2866	404	3047	222
2409	77	2417	233	2752	209	2867	94	3047½ (for 3047)	224
2415	234	2418	233	2753	209	2868	351	3048	229
2416	334	2419	233	2754	209	2869	351	3051	229
2417	334	2420	233	2755	209	2870	351	3052	457
2418	334	2421	233	2756	209	2871	351	3053	457
2420	335	2422	233	2757	209	2872	351	3054	457
2421	335	2423	233	2758	209	2873	351	3055	457
2422	335	2424	233	2759	209	2874	351	3056	457
2423	335	2425	244	2760	210	2875	351	3057	457
2424	340	2426	244	2761	210	2876	351	3058	457
2425	348	2427	244	2762	210	2877	351	3059	457
2426	348	2428	244	2763	210	2878	351	3060	457
2427	363	2429	246	2764	210	2879	351	3061	457
2428	368	2430	246	2765	210	2880	351	3062	457
2429	361	2431	236	2766	210	2881	351	3065	457
2430	361	2432	236	2767	210	2882	351	3067	424
2431	361	2433	236	2768	210	2883	351	3067½	225
2432	361	2434	236	2769	210	2884	351	3068	225
2433	361	2435	236	2770	210	2885	351	3068½	225
2434	361	2436	236	2771	210	2886	351	3072	224
2435	361	2437	236	2772	210	2887	152	4071	224
2436	361	2438	236	2773	210	2888	152	3073	224
2437	361	2439	12	2774	210	2889	128	3074	224
2438	346	2469	12	2775	210	2912	364	3075	344

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3076	224	3198	101	3468	298	3674	252	3859	386
3077	224	3262	86	3470	399	3677	222	3960	386
3078	344	3203	86	3472	413	3678	222	3961	386
3079	225	3265	369	3473	413	3679	225	3962	386
3080	225	3266	369	3474	413	3680	225	3963	386
3081	230	3207	369	3475	381	3681	249	3964	386
3082	231	3211	433	3476	381	3682	249	3965	386
3083	231	3212	436	3477	381	3683	245	3966	386
3084	231	3213	438	3478	381	3684	245	3967	386
3085	231	3214	438	3479	381	3685	236	3968	370
3086	417	3215	433	3480	381	3686	245	3969	343
3089	457	3216	438	3481	381	3687	246	3970	343
3104	435	3217	438	3482	381	3687½ (for 3687)	244	3972	389
3105	435	3218	438	3483	381	3688	245	3973	381
3106	435	3219	438	3484	381	3688½ (for 3688)	246	3980	451
3107	435	3220	438	3485	381	3689	246	3981	451
3108	435	3221	438	3486	381	3689½ (for 3689)	243	3982	451
3109	435	3222	438	3487	381	3690	246	3983	451
3110	435	3223	438	3488	381	3690½ (for 3690)	243	3984	451
3111	435	3224	438	3489	267	3691	246	3985	451
3112	435	3225	438	3490	267	3692	246	3986	451
3113	435	3226	438	3491	267	3693	246	3987	451
3114	435	3227	438	3492	267	3693½ (for 3693)	244	3988	451
3115	435	3228	438	3493	267	3694	246	3989	451
3116	435	3229	439	3494	246	3694½ (for 3694)	244	3990	451
3117	435	3230	439	3495	246	3695	246	3991	451
3118	435	3231	439	3496	246	3695½ (for 3695)	246	3992	451
3119	435	3232	439	3497	246	3695½ (for 3695)	246	3993	451
3120	435	3233	439	3498	246	3697	246	3994	451
3122	435	3234	439	3499	246	3698	246	3995	451
3123	435	3235	439	3500	246	3699	246	3996	451
3124	435	3236	439	3501	246	3700	246	3997	451
3125	435	3237	439	3502	246	3701	246	3998	451
3126	435	3238	439	3503	246	3702	246	3999	441
3127	435	3239	439	3504	246	3703	246	4000	451
3128	435	3240	439	3505	246	3704	246	4001	451
3129	435	3241	439	3506	246	3705	246	4002	451
3130	435	3242	439	3507	246	3706	246	4003	451
3131	436	3243	439	3508	246	3707	246	4004	451
3132	436	3244	439	3509	246	3708	246	4005	451
3133	436	3245	439	3510	246	3709	246	4006	451
3134	436	3246	439	3511	246	3710	246	4007	451
3135	436	3247	439	3512	246	3711	246	4008	451
3136	436	3248	439	3513	246	3712	246	4009	451
3137	436	3249	439	3514	246	3713	246	4010	451
3138	436	3250	439	3515	246	3714	246	4011	451
3139	436	3251	439	3516	246	3715	246	4012	451
3140	436	3252	439	3517	246	3716	246	4013	451
3141	436	3253	439	3518	246	3717	246	4014	451
3142	436	3254	439	3519	246	3718	246	4015	451
3143	436	3255	439	3520	246	3719	246	4016	451
3144	436	3256	439	3521	246	3720	246	4017	451
3145	436	3257	439	3522	246	3721	246	4018	451
3146	436	3258	439	3523	246	3722	246	4019	451
3147	436	3259	439	3524	246	3723	246	4020	451
3148	436	3260	439	3525	246	3724	246	4021	451
3149	436	3261	439	3526	246	3725	246	4022	451
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3151	436	3263	439	3528	246	3727	246	4024	451
3152	436	3264	439	3529	246	3728	246	4025	451
3153	436	3265	439	3530	246	3729	246	4026	451
3154	436	3266	439	3531	246	3730	246	4027	451
3155	436	3267	439	3532	246	3731	246	4028	451
3156	436	3268	439	3533	246	3732	246	4029	451
3157	436	3269	439	3534	246	3733	246	4030	451
3158	436	3270	439	3535	246	3734	246	4031	451
3159	436	3271	439	3536	246	3735	246	4032	451
3160	436	3272	439	3537	246	3736	246	4033	451
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3162	436	3274	439	3539	246	3738	246	4035	451
3163	436	3275	439	3540	246	3739	246	4036	451
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3166	436	3278	439	3543	246	3742	246	4039	451
3167	436	3279	439	3544	246	3743	246	4040	451
3168	436	3280	439	3545	246	3744	246	4041	451
3169	436	3281	439	3546	246	3745	246	4042	451
3170	436	3282	439	3547	246	3746	246	4043	451
3171	436	3283	439	3548	246	3747	246	4044	451
3172	436	3284	439	3549	246	3748	246	4045	451
3173	436	3285	439	3550	246	3749	246	4046	451
3174	436	3286	439	3551	246	3750	246	4047	451
3175	436	3287	439	3552	246	3751	246	4048	451
3176	436	3288	439	3553	246	3752	246	4049	451
3177	436	3289	439	3554	246	3753	246	4050	451
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3184	436	3296	439	3561	246	3760	246	4057	451
3185	436	3297	439	3562	246	3761	246	4058	451
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3187	436	3299	439	3564	246	3763	246	4060	451
3188	436	3300	439	3565	246	3764	246	4061	451
3189	436	3301	439	3566	246	3765	246	4062	451
3190	436	3302	439	3567	246	3766	246	4063	451
3191	436	3303	439	3568	246	3767	246	4064	451
3192	436	3304	439	3569	246	3768	246	4065	451
3193	436	3305	439	3570	246	3769	246	4066	451
3194	436	3306	439	3571	246	3770	246	4067	451
3195	436	3307	439	3572	246	3771	246	4068	451
3196	436	3308	439	3573	246	3772	246	4069	451
3197	436	3309	439	3574	246	3773	246	4070	451
3198	436	3310	439	3575	246	3774	246	4071	451
3199	436	3311	439	3576	246	3775	246	4072	451
3200	436	3312	439	3577	246	3776	246	4073	451
3201	436	3313	439	3578	246	3777	246	4074	451
3202	436	3314	439	3579	246	3778	246	4075	451
3203	436	3315	439	3580	246	3779	246	4076	451
3204	436	3316	439	3581	246	3780	246	4077	451
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3206	436	3318	439	3583	246	3782	246	4079	451
3207	436	3319	439	3584	246	3783	246	4080	451
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3209	436	3321	439	3586	246	3785	246	4082	451
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3214	436	3326	439	3591	246	3790	246	4087	451
3215	436	3327	439	3592	246	3791	246	4088	451
3216	436	3328	439	3593	246	3792	246	4089	451
3217	436	3329	439	3594	246	3793	246	4090	451
3218	436	3330	439	3595	246	3794	246	4091	451
3219	436	3331	439	3596	246	3795	246	4092	451
3220	436	3332	439	3597	246	3796	246	4093	451
3221	436	3333	439	3598	246	3797	246	4094	451
3222	436	3334	439	3599	246	3798	246	4095	451
3223	436	3335	439	3600	246	3799	246	4096	451
3224	436	3336	439	3601	246	3800	246	4097	451
3225	436	3337	439	3602	246	3801	246	4098	451
3226	436	3338	439	3603	246	3802	246	4099	451
3227	436	3339	439	3604	246	3803	246	4100	451



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3858	320	6755	228	8010	41	8109	43	8207	44
3897	206	6756	228	8012	41	8110	43	8208	19
3899	382	6757	228	8013	41	8111	43	8209	19
4111	341	6761	455	8014	41	8112	43	8210	19
4112	341	6762	455	8015	41	8113	43	8211	20
4134	341	6763	455	8016	41	8114	43	8212	20
4135	341	6764	455	8017	41	8115	43	8213	20
4301	83	6765	455	8018	41	8116	43	8214	20
4505	83	6766	455	8019	41	8117	43	8215	20
4954	184	6768	455	8020	41	8118	43	8216	20
4975	184	6769	455	8021	41	8119	43	8217	20
5539	99	6770	455	8022	41	8120	43	8218	20
6000	96	6771	455	8023	41	8121	43	8219	20
6001	96	6772	455	8024	41	8122	43	8220	20
6568	242	6773	455	8025	41	8123	43	8221	20
6569	241	6774	455	8026	41	8124	42	8222	21
6540	241	6775	455	8027	41	8125	42	8223	21
6541	241	6776	455	8028	41	8126	42	8224	21
6542	241	6777	455	8029	41	8127	42	8225	21
6542½	241	6778	455	8030	41	8128	42	8226	21
6543	241	6779	455	8031	41	8129	42	8227	21
6544	242	6780	455	8032	41	8130	42	8228	21
6555	242	6781	455	8033	41	8131	42	8229	21
6556	242	6782	455	8034	41	8132	42	8230	21
6556½	242	6783	455	8035	41	8133	42	8231	21
6557	242	6786	267	8037	41	8134	42	8232	21
6558	242	6787	267	8037	41	8135	42	8233	21
6558½	242	6788	267	8038	41	8136	42	8234	21
6559	242	6789	267	8039	41	8137	42	8235	17
6560	242	6790	267	8040	41	8138	42	8236	17
6560½	242	6791	267	8041	41	8139	42	8237	18
6561	242	6792	267	8042	41	8140	42	8238	18
6562	242	6793	267	8043	41	8141	42	8239	18
6562½	242	6799	406	8044	41	8142	42	8240	18
6563	241	6800	407	8045	41	8143	42	8241	18
6565	241	6801	349	8046	41	8144	42	8242	18
6566	241	6808	349	8047	41	8145	42	8243	18
6567	241	6809	349	8048	41	8146	42	8244	18
6567½ (for 6567)	241	6810	349	8049	41	8147	42	8245	18
6568	241	6812	049	8050	41	8148	42	8246	18
6569	241	6813	242	8051	42	8149	42	8247	19
6569½ (for 6569)	241	6813½	242	8052	42	8150	42	8248	19
6570	241	6814	242	8053	42	8151	42	8249	19
6570½ (for 6570)	241	6815	242	8054	42	8152	42	8250	19
6571	241	6815½	242	8055	42	8153	42	8251	19
6572	241	6816	242	8056	42	8154	42	8252	45
6572½	242	6817	349	8057	42	8155	42	8253	44
6574	242	6818	349	8058	42	8156	42	8254	44
6575	242	6819	349	8059	42	8157	43	8255	44
6576	242	6820	349	8060	42	8158	43	8256	44
6577	242	6821	349	8061	42	8159	43	8257	44
6577½	242	6822	349	8062	41	8160	43	8258	44
6580	400	6823	349	8063	41	8161	43	8259	44
6587	241	6824	349	8064	41	8162	43	8260	44
6589	247	6825	349	8065	41	8163	43	8261	45
6706	247	6833	228	8066	41	8164	43	8262	45
6710	297	6834	228	8067	41	8165	43	8263	45
6711	297	6835	228	8068	41	8166	43	8264	45
6712	297	6843	241	8069	41	8167	43	8265	40
6713	297	6845	241	8070	41	8168	44	8266	40
6714	297	6848	242	8071	41	8169	44	8267	40
6715	497	6849	242	8072	41	8170	44	8268	40
6716	297	6850	241	8073	42	8171	44	8269	40
6717	297	6850½	242	8074	42	8172	44	8270	40
6718	299	6851	241	8075	42	8173	44	8271	40
6719	299	6854	241	8076	42	8174	44	8272	40
6720	299	6854½ (for 6854)	241	8077	42	8175	44	8273	80
6721	299	6855	241	8078	42	8176	44	8274	40
6722	299	6856	241	8079	42	8177	44	8275	40
6723	299	6864½	241	8080	42	8178	44	8276	40
6724	299	6865	241	8081	42	8179	44	8277	40
6725	299	6865½	241	8082	42	8180	44	8278	40
6726	298	6866	242	8083	42	8181	44	8279	40
6729	298	6866½	242	8084	43	8182	44	8280	40
6730	298	6867	242	8085	43	8183	44	8281	40
6731	298	6867	241	8086	43	8184	44	8282	40
6732	298	6867½ (for 6867)	242	8087	43	8185	44	8283	40
6734	241	6868	241	8088	43	8186	44	8284	40
6735	241	6868½ (for 6868)	247	8089	43	8187	44	8285	40
6736	298	6869	241	8090	43	8188	44	8286	40
6737	298	6870	247	8091	43	8189	44	8287	40
6738	298	6870½	242	8092	43	8190	44	8288	40
6739	298	6871½	242	8093	43	8191	44	8289	40
6740	298	6872½	242	8094	43	8192	44	8290	40
6741	298	6874½	242	8095	43	8193	44	8291	40
6742	298	6875½	242	8096	43	8194	44	8292	40
6743	298	8000	40	8057	43	8195	44	8293	40
6744	298	8001	40	8058	43	8196	44	8294	40
6745	298	8002	40	8059	43	8197	44	8295	40
6746	298	8003	40	8060	43	8198	44	8296	40
6747	298	8004	40	8061	43	8199	44	8297	40
6748	298	8005	40	8062	43	8200	44	8298	40
6749	298	8006	40	8063	43	8201	44	8299	40
6750	298	8007	40	8064	43	8202	44	8300	40
6751	298	8008	40	8065	43	8203	44	8301	40
6752	298	8009	40	8066	43	8204	44	8302	40
6753	298	8010	41	8067	43	8205	44	8303	40
6754	298	8011	41	8068	43	8206	44	8304	40



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8305	40	8451	48	8598	52	8731	207	8872	194
8306	40	8453	48	8599	52	8732	207	8873	194
8307	40	8454	48	8600	52	8733	207	8874	194
8308	40	8456	48	8601	52	8734	207	8875	194
8309	45	8457	48	8602	52	8735	207	8876	194
8311	45	8459	48	8603	52	8736	207	8877	194
8312	45	8460	48	8604	52	8737	208	8878	191
8314	45	8462	48	8605	52	8738	208	8879	191
8316	45	8463	48	8606	52	8739	208	8880	102
8317	45	8465	48	8607	52	8740	208	8881	382
8318	45	8466	48	8608	52	8741	208	8882	270
8320	45	8468	48	8609	52	8742	402	8883	270
8321	45	8469	48	8610	52	8746	377	8889	413
8323	45	8471	48	8611	52	8747	308	8900	413
8324	45	8472	49	8612	52	8748	208	8901	413
8326	45	8474	49	8613	52	8749	455	8902	413
8327	45	8475	49	8614	22	8750	455	8903	413
8329	45	8477	49	8615	22	8751	455	8904	413
8330	45	8478	49	8616	22	8752	455	8905	413
8332	45	8480	49	8617	22	8753	455	8906	413
8333	45	8481	49	8618	26	8755	192	8907	400
8335	45	8483	49	8619	26	8756	192	8908	400
8336	45	8484	49	8620	26	8757	192	8909	400
8338	46	8486	49	8621	12	8758	153	8910	400
8339	46	8487	49	8622	12	8759	133	8913	184
8341	46	8489	49	8623	12	8770	191	8966	432
8342	46	8490	49	8624	368	8771	191	8967	432
8344	46	8492	49	8625	368	8772	191	8968	432
8345	46	8493	49	8626	368	8773	192	8969	432
8347	46	8495	49	8627	368	8788	349	8970	433
8348	46	8496	49	8632	353	8789	349	8971	433
8350	46	8498	49	8633	353	8790	349	8972	433
8351	46	8499	49	8634	353	8791	106	8973	135
8353	46	8501	49	8635	353	8792	106	8974	135
8354	46	8502	49	8636	430	8793	106	8975	135
8356	46	8504	49	8637	430	8794	106	8976	135
8357	46	8505	49	8638	430	8795	106	8977	136
8359	46	8507	49	8639	430	8796	106	8978	136
8360	46	8508	49	8640	426	8797	106	8979	136
8362	46	8510	49	8641	426	8798	106	8980	136
8363	46	8511	49	8642	428	8799	106	8981	136
8365	46	8513	49	8643	428	8800	106	8982	136
8366	46	8514	49	8644	428	8801	106	8983	136
8368	46	8516	49	8645	428	8802	168	8984	103
8369	46	8517	50	8646	428	8803	168	8985	103
8371	46	8519	50	8647	428	8804	168	8986	103
8372	46	8520	50	8648	428	8805	169	8987	103
8374	46	8522	50	8649	375	8806	169	8988	103
8375	46	8523	50	8650	376	8807	169	8989	103
8377	46	8525	50	8651	376	8808	170	8990	411
8378	46	8526	50	8652	376	8809	170	8991	411
8380	46	8528	50	8653	375	8810	170	8992	429
8381	46	8529	50	8654	375	8811	170	8993	429
8383	46	8531	50	8655	375	8812	182	8994	429
8384	46	8532	50	8656	375	8816	182	8995	429
8386	46	8534	50	8657	427	8817	182	8996	429
8387	46	8535	50	8658	427	8818	182	8997	429
8390	46	8537	50	8659	427	8819	182	8998	411
8391	46	8538	50	8660	427	8820	182	9001	240
8393	46	8540	50	8661	427	8821	186	9002	249
8394	47	8541	50	8662	427	8822	186	9003	249
8396	47	8543	50	8663	428	8823	186	9005	430
8397	47	8544	50	8677	102	8824	187	9006	430
8399	47	8546	50	8678	102	8825	192	9007	430
8400	47	8547	50	8679	102	8826	193	9008	431
8402	47	8549	50	8680	102	8827	193	9009	431
8403	47	8550	50	8681	102	8828	193	9070	431
8405	47	8552	50	8682	102	8829	193	9071	431
8406	47	8553	50	8683	102	8830	92	9072	431
8408	47	8555	50	8684	102	8831	93	9073	455
8409	47	8556	50	8689	259	8832	93	9074	455
8411	47	8558	50	8691	100	8836	96	9075	455
8412	47	8559	50	8692	100	8837	96	9076	455
8414	47	8561	50	8701	378	8839	96	9077	455
8415	47	8562	51	8703	165	8840	96	9078	455
8417	47	8564	51	8704	170	8842	96	9107	180
8418	47	8565	51	8705	148	8843	96	9118	184
8420	47	8567	51	8706	148	8845	96	9119	184
8421	47	8568	51	8707	148	8846	96	9120	186
8423	47	8570	51	8708	148	8848	96	9121	186
8424	47	8571	51	8709	149	8849	96	9122	185
8426	47	8573	51	8710	149	8851	147	9123	185
8427	47	8574	51	8711	149	8862	147	9124	185
8429	47	8576	51	8712	191	8867	194	9125	186
8430	47	8577	51	8713	368	8858	194	9126	187
8432	47	8579	51	8716	149	8859	194	9127	187
8433	47	8580	51	8717	149	8860	194	9128	188
8435	47	8582	51	8720	521	8861	194	9129	188
8436	48	8583	51	8723	101	8862	194	9130	188
8438	48	8585	51	8724	101	8863	194	9131	188
8439	48	8586	51	8725	159	8864	194	9132	188
8441	48	8588	51	8725½ (for 8725)	218	8865	194	9133	188
8442	48	8589	51	8726	159	8866	194	9134	187
8444	48	8591	51	8726½	382	8867	194	9135	187
8445	48	8592	51	8727	382	8868	194	9136	187
8447	48	8594	51	8728	382	8869	194	9137	187
8448	48	8595	51	8729	382	8870	194	9138	187
8450	48	8597	51	8730	382	8871	194	9140	186

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9141	186	13221	379	14930	347	15183	366	15492	425
9144	17	13222	379	14931	347	15186	366	15493	425
9140	393	13223	379	14932	347	15187	366	15490	439
9246	402	13224	379	14933	347	15189	366	15500	439
9240	1371	13225	379	14935	344	15191	366	15802	439
9293	270	13226	379	14936	344	15192	366	15804	439
9300	403	13227	379	14937	344	15193	366	15805	439
9301	403	13228	379	14938	344	15195	366	15810	439
9303	383	13236	379	14940	346	15200	367	15811	439
9315	393	13237	379	14941	346	15201	367	15812	439
9319	88	13238	379	14942	346	15202	367	15813	439
9327	411	13239	379	14945	346	15205	367	15820	439
9328	270	13240	379	14946	346	15207	367	15824	439
9378	15	13241	379	14948	348	15211	367	15824	439
9379	15	13242	379	15006	346	15210	367	15825	439
9380	15	13243	379	15008	342	15211	367	15825	439
9381	15	13244	379	15010	342	15212	367	15830	439
9382	15	13245	379	15011	342	15213	367	15830	439
9383	15	13246	379	15012	342	15215	367	15830	439
9383 <sup>1/2</sup> (for 9388)	271	13247	379	15015	345	15216	367	15835	439
9384	15	13249	380	15018	347	15220	370	15836	439
9384	270	13251	380	15020	347	15222	371	15837	439
9387	270	13252	380	15021	347	15225	371	15838	439
9388	270	13263	380	15025	348	15230	371	15840	439
9389	270	13264	380	15026	348	15234	372	15840	439
9391	271	13265	380	15030	349	15235	372	15842	439
9392	271	13266	380	15031	349	15236	372	15843	439
9393	271	13267	380	15032	349	15237	372	15845	439
9394	271	13269	380	15033	349	15238	372	15846	439
9395	271	13270	380	15035	349	15239	372	15847	439
9400	81	13271	380	15040	350	15240	372	15848	439
9400 <sup>1/2</sup> (for 9400)	226	13272	380	15041	350	15241	372	15849	439
9400	226	13273	380	15042	350	15245	376	15850	439
9402	226	13274	380	15043	350	15300	391	15851	439
9403	226	13275	380	15045	350	15301	391	15851	439
9404	226	13276	380	15046	350	15302	391	15853	439
9405	226	13277	380	15047	350	15305	391	15850	439
9406	226	13278	380	15048	350	15308	392	15851	439
9407	226	13279	380	15052	350	15310	392	15862	439
9408	226	13280	380	15055	350	15312	392	15863	439
9409	226	13281	380	15056	350	15325	392	15865	439
9411	226	13285	380	15057	350	15326	392	15865	439
9412	226	13286	380	15058	350	15416	418	15866	439
9413	226	13287	380	15060	352	15417	418	15867	439
9414	226	13288	380	15062	352	15418	418	15868	439
9415	226	13289	380	15063	352	15420	419	15869	439
9416	226	13290	380	15064	353	15421	419	15870	439
9417	226	13291	380	15066	353	15422	419	15871	439
9418	226	13292	380	15067	353	15423	419	15872	439
9419	226	13293	380	15068	353	15425	419	15873	439
9419	226	13294	380	15070	354	15426	419	15876	439
9463	428	13295	380	15071	354	15430	420	15877	439
9464	428	13296	380	15075	355	15431	420	15878	439
9531	271	13297	380	15076	355	15432	420	15879	439
9532	271	13298	380	15077	355	15433	420	15880	439
9533	271	13299	380	15078	355	15434	420	15881	439
9537	272	13310	381	15080	355	15436	420	15882	439
9538	272	13311	381	15085	364	15440	420	15883	439
9540	272	13312	381	15086	364	15441	420	15884	439
9540	272	13313	381	15115	365	15442	420	15885	439
9542	272	13314	381	15116	365	15443	420	15886	439
9543	272	13315	381	15117	365	15444	420	15887	439
9544	272	13316	381	15118	365	15445	420	15890	439
9545	272	13317	381	15120	366	15446	420	15891	439
9547	272	13360	385	15121	366	15447	420	15892	439
9548	272	13361	385	15122	366	15455	420	15893	439
9549	272	13362	385	15123	366	15456	420	15894	439
9550	272	13363	385	15124	366	15457	420	15895	439
9552	273	13365	386	15125	366	15458	420	15896	439
9553	273	13366	386	15126	366	15459	420	15897	439
9554	273	13367	386	15127	366	15460	420	15898	439
9555	273	13368	386	15128	366	15461	422	15899	439
9557	273	13393	380	15130	366	15462	422	18757	418
9558	273	13394	380	15132	362	15463	422	18758	418
9559	273	13395	380	15140	362	15464	422	18759	418
9560	273	13396	380	15142	362	15465	422	18760	418
9562	273	13430	382	15145	362	15466	422	18761	418
9563	273	13431	382	15148	362	15467	422	18762	418
9564	273	13432	382	15150	362	15470	422	18763	418
9565	273	13433	382	15152	362	15471	422	18764	418
9567	273	13434	382	15153	362	15472	422	18760	439
9569	273	13435	382	15154	362	15473	422	18761	439
9570	273	13436	382	15155	362	15475	422	18762	439
9571	273	13437	382	15156	362	15476	422	18763	439
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9574	242	13412	342	15158	362	15478	422	20001	439
9575	242	13413	342	15159	362	15479	422	20062	9
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13211	379	14916	342	15162	362	15482	425	20004	13
13212	379	14917	343	15163	362	15483	425	20005	13
13213	379	14918	343	15165	365	15484	425	20006	13
13214	379	14920	343	15166	365	15485	425	20007	13
13215	379	14921	343	15170	365	15486	425	20008	13
13216	379	14923	343	15175	365	15487	425	20009	13
13217	379	14926	344	15180	366	15488	425	20010	13
13218	379	14927	344	15181	366	15489	425	20011	13
13219	379	14928	344	15182	366	15490	425	20012	13
13220	379	14929	344	15183	366	15491	425	20013	13

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20518	115	20619	119	20717	121	20890	171	20989	153
20519	115	20620	119	20718	121	20891	171	20990	153
20520	115	20621	119	20719	121	20892	172	20991	153
20521	115	20622	119	20720	121	20893	172	20992	153
20522	115	20623	119	20721	121	20894	172	20993	153
20523	115	20624	119	20722	121	20895	165	20994	153
20524	115	20625	119	20723	76	20896	165	21000	242
20528	116	20626	119	20724	76	20897	166	21001	242
20529	116	20627	119	20725	76	20898	166	21002	242
20530	116	20628	119	20726	76	20900	128	21003	242
20531	116	20629	118	20727	76	20901	128	21004	243
20532	116	20630	118	20728	76	20902	128	21005	243
20533	116	20631	118	20729	76	20906	128	21006	243
20534	116	20632	118	20730	76	20904	128	21007	243
20535	116	20633	118	20731	76	20905	128	21008	243
20536	116	20634	118	20732	76	20906	128	21009	243
20537	116	20635	118	20738	76	20907	128	21010	243
20538	116	20636	118	20734	76	20908	128	21011	243
20539	116	20637	118	20735	76	20909	128	21012	243
20540	116	20638	118	20736	76	20910	128	21013	243
20541	116	20639	118	20737	76	20911	128	21014	243
20542	116	20640	118	20738	76	20912	128	21015	243
20543	116	20641	118	20739	76	20913	128	21016	122
20544	116	20642	118	20740	76	20914	128	21017	122
20545	116	20643	118	20741	76	20915	128	21018	122
20546	116	20644	118	20742	76	20916	128	21019	122
20547	116	20645	118	20743	76	20917	128	21020	122
20548	116	20646	118	20744	76	20918	128	21021	122
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20550	116	20648	118	20746	76	20920	128	21023	122
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20557	116	20655	118	20753	76	20927	128	21030	152
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20559	117	20657	118	20755	76	20929	128	21032	152
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20561	117	20659	118	20757	76	20931	128	21034	162
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20565	117	20663	120	20761	100	20935	128	21038	162
20566	117	20664	120	20762	100	20936	128	21039	162
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20573	117	20671	120	20769	127	20943	128	21047	162
20574	117	20672	120	20770	127	20944	128	21048	146
20575	117	20673	120	20771	127	20945	128	21049	146
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20579	117	20677	120	20775	215	20949	128	21053	146
20580	117	20678	120	20776	166	20950	128	21054	146
20581	117	20679	120	20777	165	20951	128	21055	146
20582	117	20680	120	20778	167	20952	128	21056	166
20583	117	20681	120	20779	167	20953	128	21057	166
20584	117	20682	120	20780	90	20954	129	21058	148
20585	117	20683	120	20781	90	20955	129	21059	148
20586	117	20684	120	20782	182	20956	129	21060	148
20587	117	20685	120	20783	97	20957	129	21061	148
20588	117	20686	120	20784	97	20958	129	21062	148
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20603	119	20701	121	20799	168	20973	153	21077	129
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20606	119	20704	121	20802	168	20976	153	21080	144
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20609	119	20707	121	20805	168	20979	153	21083	177
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20611	119	20709	121	20807	168	20981	153	21085	176
20612	119	20710	121	20808	168	20982	153	21086	176
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20615	119	20713	121	20811	168	20985	153	21089	176
20616	119	20714	121	20812	168	20986	153	21090	176
20617	119	20715	121	20813	168	20987	153	21091	153
20618	119	20716	121	20814	168	20988	153	21092	153
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20016	13	21124	46	20224	82	20022	34	20422	113
20017	13	21125	46	20225	82	20023	34	20423	113
20018	13	21126	46	20226	84	20024	34	20424	113
20019	13	21127	46	20227	84	20025	34	20425	113
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20021	14	21129	46	20229	89	20027	34	20427	113
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20024	14	21132	47	20232	89	20031	34	20430	113
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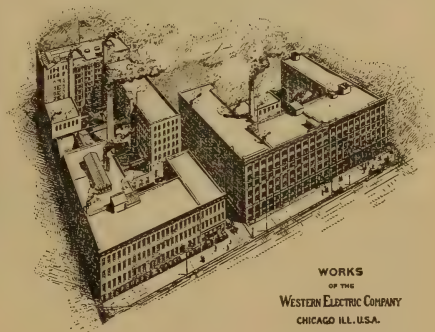
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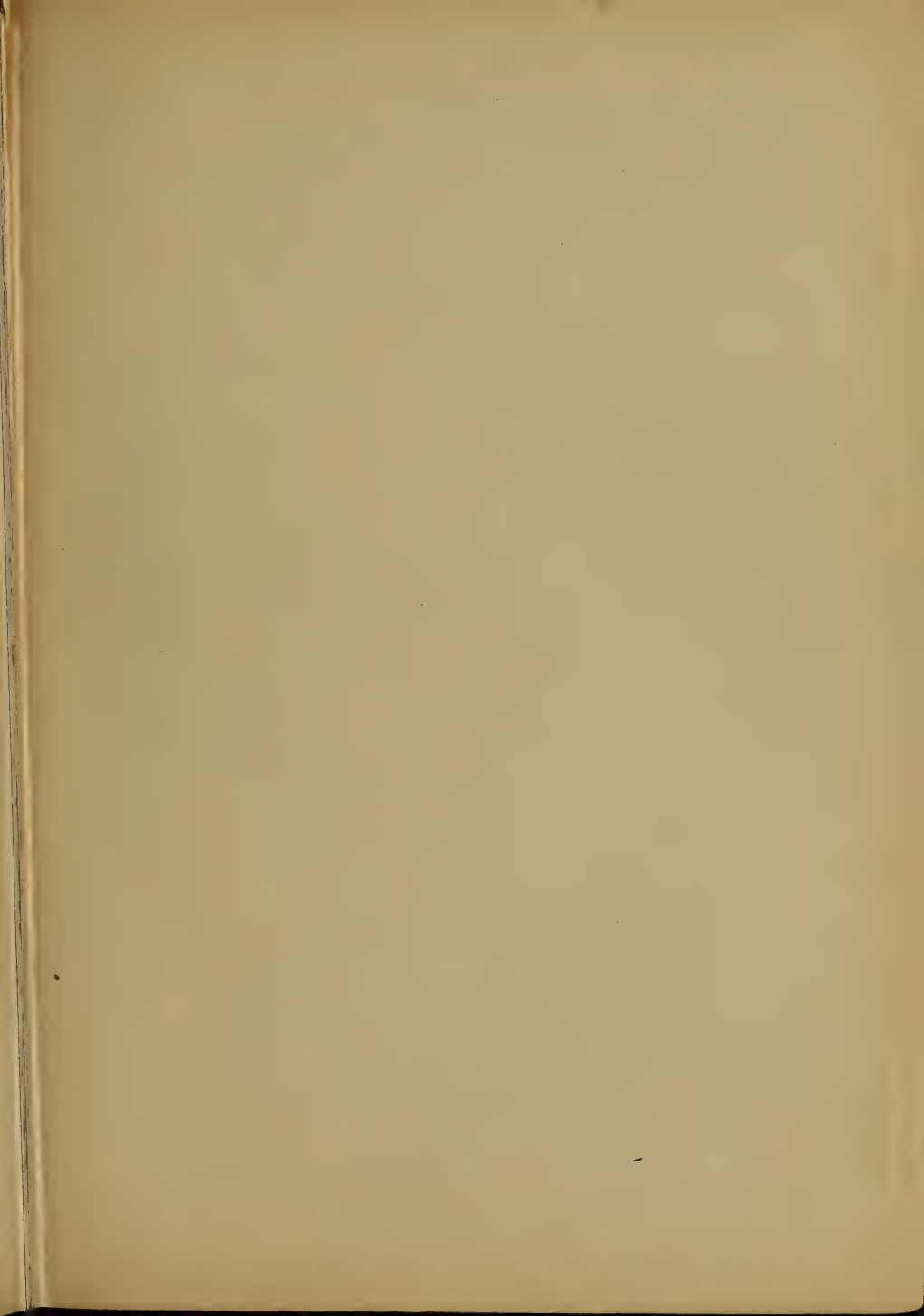


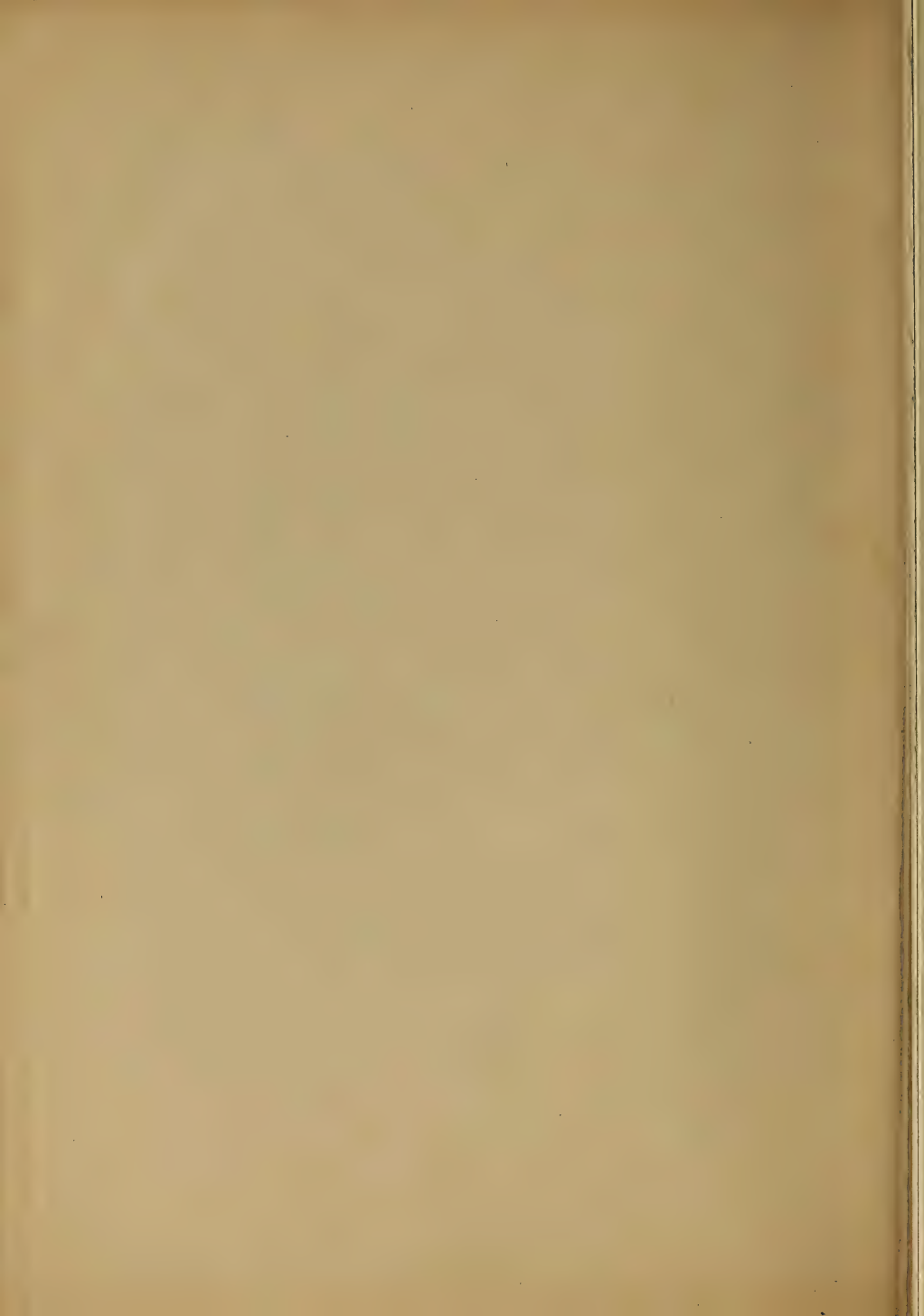
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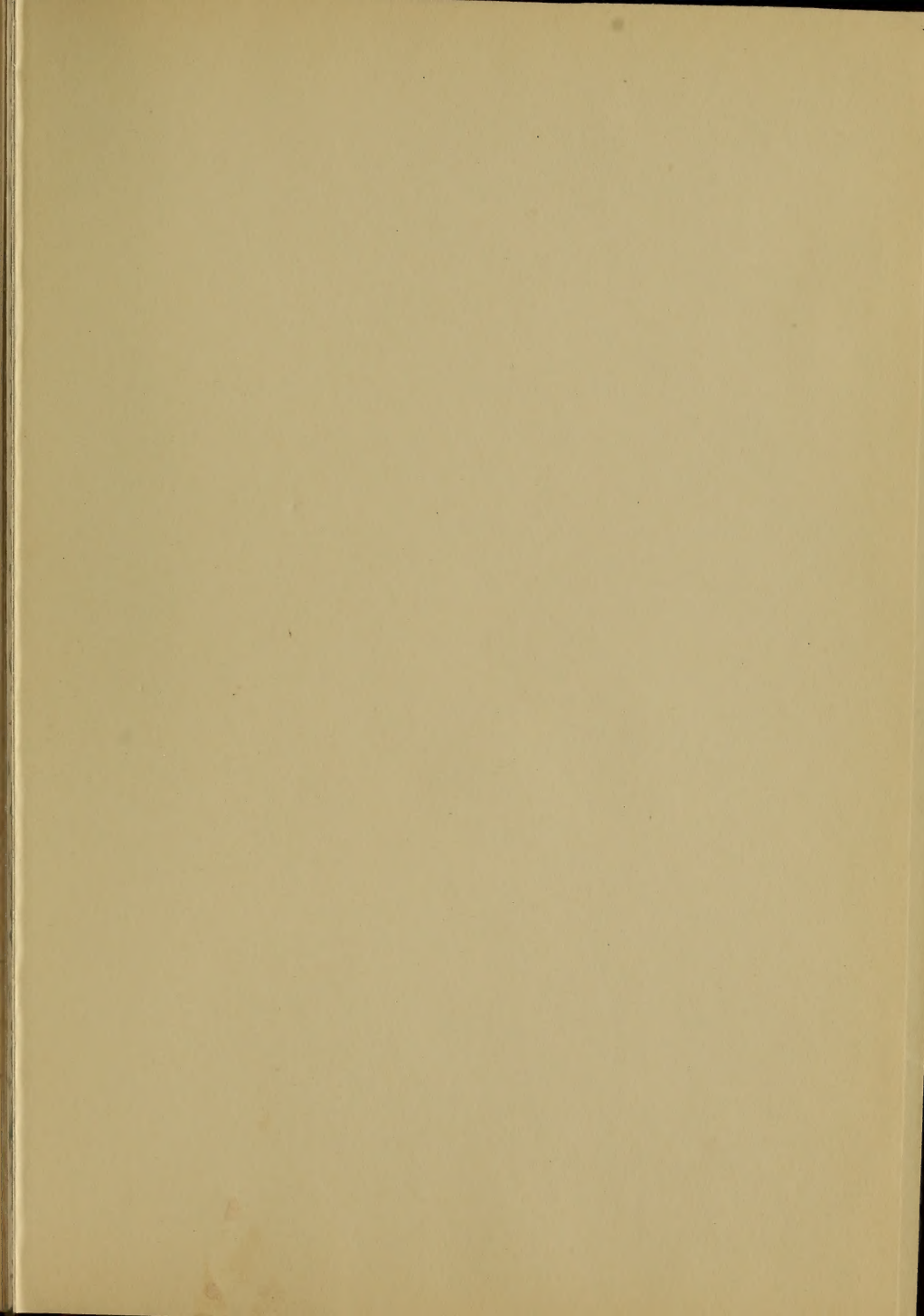


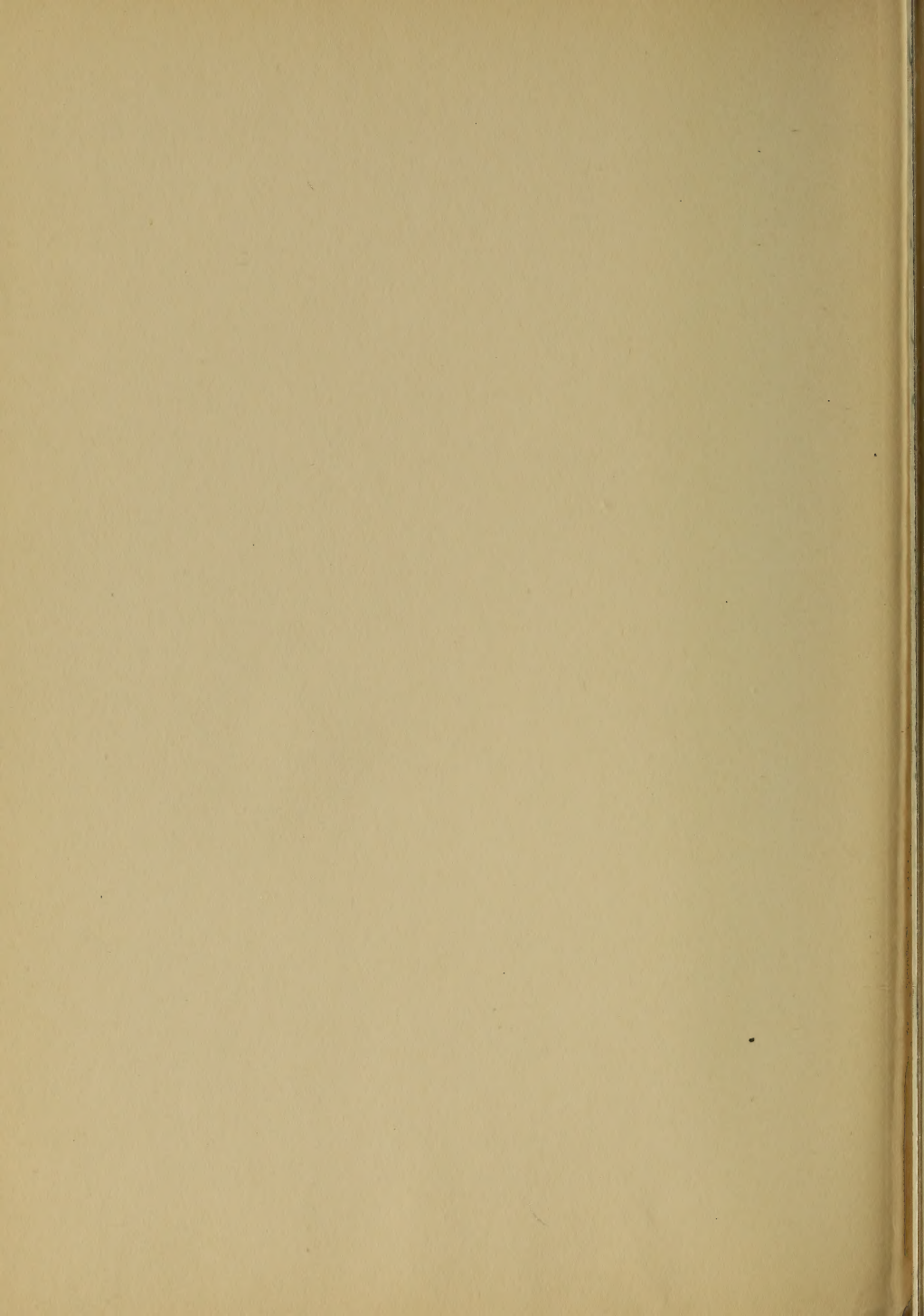


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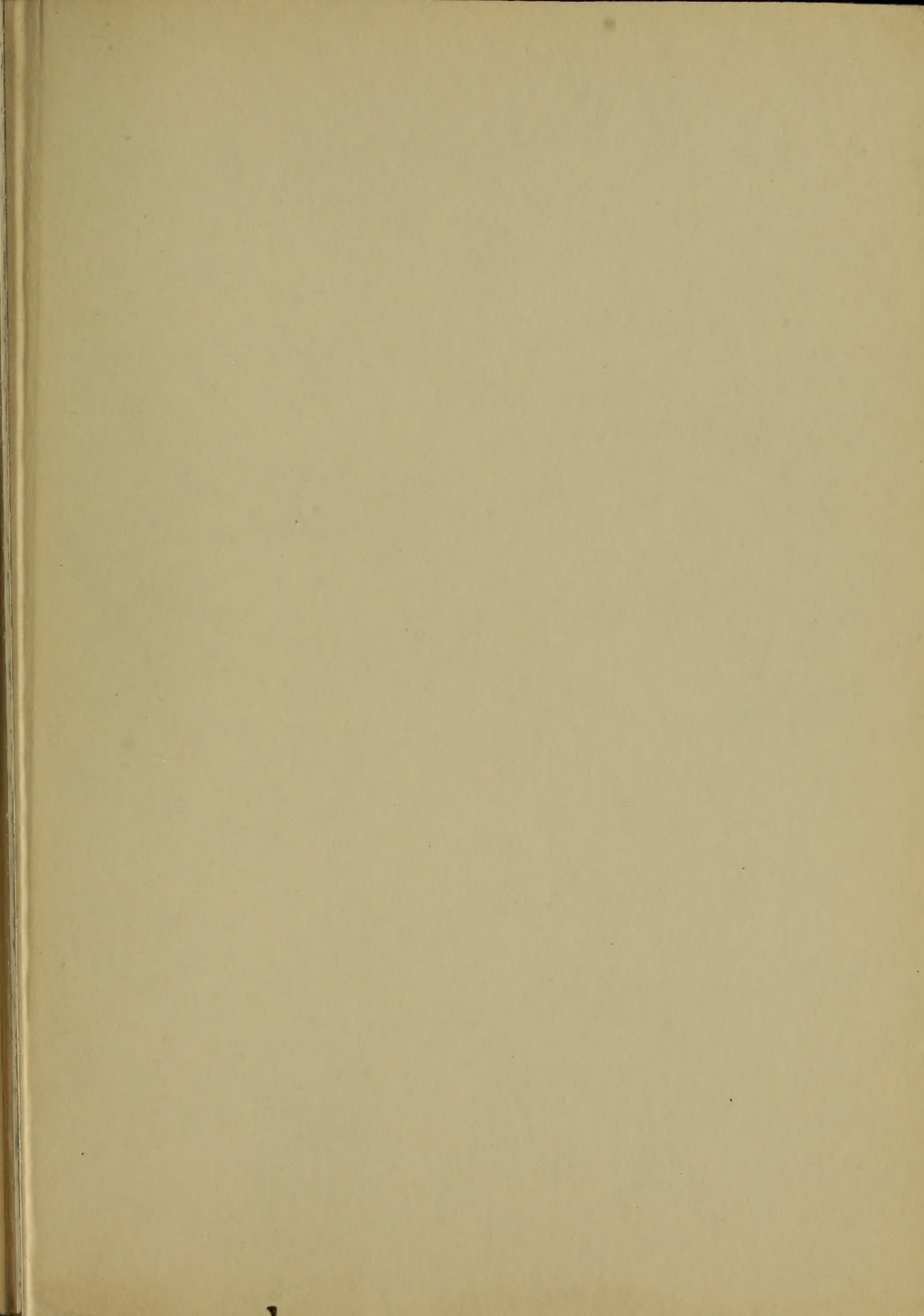












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